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Unforgiving Pain: A Qualitative Exploration of Chronic Pain and Self-Forgiveness

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Dedication and Acknowledgements

This work is dedicated to my supportive and patient family, including my parents Darlene and John Elwin, who instilled in me the value of education and the idea that I could be anything I was willing to work to be; to my sons Joel and Jonathan who understood when I couldn't always be available and who knew when to insist on me being present when I disappeared from family life for too long; and most of all to the love of my life, my husband Paul, who never once complained as he created the space to allow me to pursue my dream: I could not have done this without your unceasing and loving support, and for that I will be forever grateful.

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Abstract

This dissertation describes a qualitative study exploring associations between self-forgiveness and pain perception in the narratives of women with chronic pain. Quantitative research has demonstrated strong relationships among chronic pain, affect, and health, and among forgiveness, affect, and health. The largely unexplored overlap between these areas suggests the possibility of an inverse relationship between self-forgiveness and pain perception. A single preliminary study was found in the research literature supporting this relationship (Carson et al., 2005). A literature review explores the construct of forgiveness, differentiates religious and psychological conceptualizations, distinguishes other from self-forgiveness, and touches on the connections among forgiveness, health, and wellbeing. Chronic pain is defined, advances in the understanding of pain, pain pathways, and the evolutionary co-opting of the sensory system for affective signals are discussed, as are the multiple impacts of chronic pain. The individual experience of chronic pain and self-forgiveness has not yet been represented in the research literature. An interpretative phenomenological analysis (IPA) design was used to understand how self-forgiveness appears in the narratives of four women experiencing chronic pain and if it interacts with the pain experience. Self-report instruments were used descriptively to supplement the interviews. Narratives were consistent with the pain and forgiveness literature but the anticipated overlap was not clear. Survey results also did not demonstrate a clear relationship between pain severity and self-forgiveness. The reasons why this might be the case are discussed.

Keywords: chronic pain, self-forgiveness, affect, interpretative phenomenological analysis

Unforgiving Pain: A Qualitative Exploration of Chronic Pain and Self-Forgiveness

Though quantitative research has demonstrated strong relationships among chronic pain, affect, and health, and among forgiveness, affect, and health, the overlap between these areas is largely unmapped, with only one preliminary study found in the research literature supporting this relationship (Carson et al., 2005). This lack of previous research on which to base a quantitative study dictated the use of a qualitative research design to explore the possibility of an inverse relationship between self-forgiveness and pain perception in people with chronic pain. It was also important to me that the voices and experiences of people figuring out how to live with chronic pain and their reflections on ideas of forgiveness and self-forgiveness be represented in the literature, as much can be learned from the individual experience that is lost in a purely quantitative approach.

This study was guided by four main questions suggested by the literature:

1. Do the participants' narratives or survey responses suggest any linkage between self-forgiveness and the perception of pain?
2. Do participants portray their pain experience as a "betrayal" by their body, and if yes, have they ever forgiven or thought about forgiving that painful body part?
3. Do pain and self-forgiveness narratives reflect the emotional shift from negative to positive that accompanies genuine emotional forgiveness per the literature? If yes, is this influence evident in their narratives of pain? Is it observable in the survey data?
4. What linkages can be made between the literature base and the data from this current study?

According to the Institute of Medicine (IOM; 2011), chronic pain affects an estimated 15% of American adults at an annual cost of $560 to $635 billion in health care and lost

productivity. This is the equivalent of $2000 annually for every person in the United States. Pain treatment expenditures account for an entire 14% of the Medicare budget, which picks up the burden of one quarter of the annual healthcare costs of chronic pain nationwide. The price tag of chronic pain exceeds the annual costs of heart disease and cancer combined ($552 billion), and is three times the annual cost of diabetes ($188 billion; IOM, 2011). Learning to live well, despite the pain, can be a difficult, protracted, and costly process**.**

Strong links exist among chronic pain, affect, and health, and among affect, health and forgiveness. Though suggestive of a link connecting emotional forgiveness, affect valence, and the experience of chronic pain, there is a dearth of research in this area. The immense costs of chronic pain, both at an individual level in terms of quality of life, and at a societal level in terms of healthcare costs and lost productivity, heighten the need for a greater understanding of the interrelationships that may exist among the factors that might ameliorate the experience of chronic pain. Such increased awareness could be helpful in developing more effective medical and psychological treatments for chronic pain.

The decision to limit this study to the experiences of women was based on the following considerations: (a) women diagnosed with chronic pain conditions greatly outnumber men; (b) research suggests that men and women experience chronic pain differently at both a physical and emotional level; (c) research suggests that men and women are predisposed to forgive and experience forgiveness differently. Because this was an exploratory, qualitative study with a small number of participants, the intent in limiting participation to women was to increase the potential to detect the expected relatively subtle influences of self-forgiveness in women's narratives about their experience of chronic pain. Similarly, the decision to focus specifically on self-forgiveness was chosen because research suggests that forgiveness of others and forgiveness

of self are inherently different constructs and follow different processes.

Literature Review: Forgiveness

What is Forgiveness?

There is no consensus in the literature as to what defines forgiveness, though it seems to be understood that it is not pardoning, condoning, excusing, forgetting, or denying wrongdoing (McCullough, Pargament, & Thoresen, 2000). While multiple definitions of forgiveness exist, there appears to be general agreement that it can be conceptualized as encompassing three major interacting components: (a) dispositional forgiveness (trait), (b) decisional forgiveness (cognitive), and (c) emotional forgiveness (state; Elliott, 2011; Kaminer, Stein, Mbanga, & Zungu-Dirwayi, 2000; Karremans & Van Lange, 2008; Sells & Hargrave, 1998; Strelan & Covic, 2006). Psychological definitions of forgiveness (as differentiated from religious definitions) generally focus on the release of negative emotion and its replacement with positive emotion (Kaminer et al., 2000). The "transgressor" to be forgiven in the psychological conceptualization can be the self, another, or a situation. A common understanding in all definitions of forgiveness is its temporal nature: forgiveness is a process that requires time (McCullough, Fincham, & Tsang, 2003).

Religious roots of forgiveness. Sacred writings referencing forgiveness can be found as far back as 5000 B.C.E. The five major world religions (Christianity, Islam, Judaism, Buddhism, and Hinduism) all place forgiveness (in Buddhism, forbearance) at or near the center of their belief system, though they vary as to why this is so. In all these religious systems, forgiveness is an interpersonal event or process, whether between human and the divine, or between humans, resulting in the restoration of damaged interpersonal and community bonds (Rye et al., 2000).

Christianity. Within Christianity, forgiveness is the central tenet, exemplified by Jesus'

forgiveness of his executioners, and is unconditional from God and for each other. God makes forgiveness possible through inspiration, which drives personal transformation (Rye et al., 2000).

There are two forms of biblical forgiveness: God's forgiveness of sin, and the obligation of humans to forgive each other. Humanity is sinful by nature and Jesus Christ repaired that nature through the sacrifice of his death, allowing humanity the possibility of reconciliation with God. This is made explicit in story of the Last Supper, when Jesus says to his apostles "This is my blood of the covenant, which is poured out for many for the forgiveness of sins." (Matthew 26:28, New International Version [NIV]). Christians are commanded by Jesus to repent and turn away from sin to receive the forgiveness of God. When one has repented and been forgiven, eternal life is assured (Zavada, 2016).

Beyond reconciliation with God, Christians are obligated by Jesus to forgive each other: "For if you forgive other people when they sin against you, your heavenly Father will also forgive you. But if you do not forgive others their sins, your Father will not forgive your sins" (Matthew 6:14-15, NIV). Grudges and revenge are not allowed, and Christians must trust in God for justice (Zavada, 2016). The compassion the victim feels towards the offender, and the repentance or remorse of the offender for the hurtful act, results in forgiveness (Rye et al., 2000).

Judaism. In the Jewish tradition, forgiveness is also a central tenet, closely associated with repentance (*teshuvá*). Repentance is comprised of five elements: recognition of one's sins, remorse, ceasing to sin, making restitution when possible, and confession (ritual and personal). One must sincerely do all five to be considered penitent, and this precedes the possibility of forgiveness (Blumenthal, 2005).

There are three types of forgiveness in Judaism. A sin against another incurs a debt of obligation towards the wronged party by the offender. Only the offender can make restitution

and only the injured party can set aside the debt. There are responsibilities on both sides because repentance is part of God's creation: the offender must do *teshuvá*, and if this is done sincerely, the wronged party must offer *mechilá* (relinquishing the debt or obligation). This obligation to forgive does not apply if the offender has not taken steps to make amends and personal changes that demonstrate his or her repentance. In this first type of forgiveness, it is incumbent on the wronged party to withhold *mechilá* if repentance is not demonstrated because the offender may then never truly repent of their sinfulness, and evil will be perpetuated in the world. *Mechilá* has no requirement for reconciliation (Blumenthal, 2005).

Selichá, or "forgiveness," is the second type of forgiveness, and occurs when the offended party comes to a different, empathetic understanding of the offender as deserving of sympathy. It too does not involve reconciliation, but is simply a shift in perspective that allows one to compassionately view the offender as an imperfect human being. Finally, *kappará* ("atonement"), or *tahorá*, ("purification") represent the third type of forgiveness in Judaism. This is the highest form of forgiveness, as it is the cleansing of all sinfulness from an individual. This form of forgiveness is exclusive to God (Blumenthal, 2005), and because God is forgiving, people too must be forgiving (Rye et al., 2000).

Islam. Islam views forgiveness as the closure of the record for an offense committed against God, Allah, or any of God's creation (Ali, 2007; Rye et al., 2000). Aspects of forgiveness are expressed in three separate terms, including *afw*, meaning to pardon or excuse; *safhu*, meaning to turn away from or ignore a sin; and *ghafara* or *maghfira*, meaning to cover, forgive, or remit (Ali, 2007). For an offense against God, there are three requirements that must be met with sincerity in the following order to receive forgiveness: (a) recognizing and admitting the offense before God; (b) promising not to repeat the offense; and (c) asking God for forgiveness.

If the offense is against a person or against society, the order changes and an additional element is added: (a) acknowledging the offense before the injured party (person or society) and God; (b) sincerely committing oneself to not repeating the offense; (c) remedying the offense and asking for the forgiveness of the injured party; and (d) asking God for forgiveness (Ali, 2007).

Forgiveness is also important in securing a place in the life hereafter. God loves those who do good, and forgiveness of others brings happiness, which is good, into the world. Though revenge is allowed in the same measure as the injury received, forgiveness is preferred in recognition of the model of forgiveness set by the prophet Muhammad (Rye et al., 2000).

Buddhism. Buddhism does not specifically hold forgiveness central in its belief system, but forgiveness is subsumed under the concepts of forbearance and compassion, which are (Rye et al., 2000). *Karuna* is the Sanskrit word that is usually translated as "compassion," and means "active sympathy or a willingness to bear the pain of others" (O'Brien, 2017). The First Noble Truth of Buddhism is that life is suffering. The purpose of forbearance and compassion are to relieve the suffering and pain of others, while refraining from bringing more pain or suffering into the world. Forbearance therefore includes enduring an offense without anger or resentment, while compassion towards the offender allows the victim to empathize and help ease the offender's pain and suffering (Rye et al., 2000). The idea of self-compassion is also important within Buddhism, as it is not otherwise possible to have compassion for others (O'Brien, 2017).

Hinduism. Hinduism has the longest recorded history of forgiveness as part of its belief system, and equates forgiveness with mercy (Rye et al., 2000). References to *ksama,* Sanskrit for "forgiveness" are found in the Bhagavad Gita, the ancient, universal scripture of Hinduism. The importance of *ksama* is emphasized by its grouping with other divine qualities, such as charity, nonviolence, and compassion (Hunter, 2007).

Following the path of dharma, the central practice of Hinduism, requires practicing forgiveness, compassion, and forbearance (Rye et al., 2000). The Sanskrit *titiksha* means forbearance or tolerance, and together with other related concepts, such as *akrodah* (freedom from anger), and *karuna* (compassion), speaks to forgiveness as the voluntary giving up of the will to commit violence so that true peace becomes possible. Under the law of karma and the belief in reincarnation, holding a grudge or retaliating against an offender only serves to hurt oneself further by prolonging the reincarnation cycle. And by the law of karma, any misfortune one is experiencing now is the result of one's own past deeds. Seeking retribution therefore becomes pointless. Forgiveness can be sought and bestowed divinely through the supreme Godhead (*Brahman*), or any of the saints and deities recognized by Hinduism (Hunt, 2007). This can occur with or without repentance, but between people, the offender is usually expected to repent before forgiveness is granted (Rye et al., 2000).

Forgiveness, religion, and cultural context. Research has found that people tend to rely on religion for support and guidance when trying to forgive: Asking God for help in forgiving is the most common strategy employed (Rye et al., 2000). As a result, the religious and cultural context is an important factor in understanding what forgiveness means. Additionally, those who identify as atheists have been found to respond to questions about forgiveness differently than Christians (Covert & Johnson, 2009). The cultural context within which forgiveness is discussed or examined is important to clarify, as both the understanding of forgiveness and its expression can vary considerably (Cosgrove & Konstam, 2008; Rye et al., 2000). These differences also argue against a dichotomous view of a state of forgiveness as either authentic or inauthentic, as the definitions and meaning-making systems at an individual or cultural level cannot be meaningfully reduced to a true-false framework (Cosgrove & Konstam, 2008).

Layperson understanding of forgiveness. In common understanding, at least within the United States, forgiveness is dynamic and includes both interpersonal and intrapersonal dimensions, as well as active (moving on), and passive, approaches. Layperson definitions and understanding of forgiveness appear to be more closely aligned with theological than with psychological understandings, with a strong emphasis on an interpersonal process that includes recognition of a moral wrong and offender remorse. Per a 2016 Gallup Poll, 89% of Americans said they believe in God, 79% expressed a religious preference, 55% were members of a religious organization, and 51% attended religious services at least monthly (Newport, 2016), so this alignment is not surprising. The experience of forgiveness from this perspective includes behavioral, emotional, and cognitive components (Lawler-Row, Scott, Raines, Edlis-Matityahou, & Moore, 2007).

Psychological perspectives. Though the religious roots of forgiveness emphasize its interpersonal characteristics, psychology has largely focused on its intrapersonal aspects and a passive (letting go) emphasis (Lawler-Row et al., 2007). Smedes, as quoted in Lawler-Row et al. exemplifies this understanding: “We do forgiving alone inside our hearts and minds; what happens to the people we forgive depends on them” (p. 233). Denton and Martin (1998) define forgiveness as “An inner process…by which the injured person without the request of the other releases negative feelings and no longer seeks to return hurt” (p. 286). In this formulation, forgiveness does not require an interpersonal interaction. Whether one forgives another or oneself, it is an internal, private process, and unlike most theologically derived understandings of forgiveness, does not require reconciliation.

Vitz and Meade (2011) were critical of this understanding and approach, as they believe that the concept of self-forgiveness is a recent invention of psychology within the United States

that has no corollary in the religious or philosophical traditions regarding forgiveness. They asserted that the self cannot forgive the self, as this requires a splitting of the self into the offending self and the forgiving self, which they perceive as a highly primitive defense mechanism, analogous to the Kleinien "good self/bad self" of infancy. Forgiveness must be at least dyadic to avoid this problem, and therefore can only be granted by the person who has been wronged, or by God.

In the view of Vitz and Meade (2011), the concept of self-forgiveness as used by psychotherapists to assist a person to heal from feelings of unworthiness, of being unforgiveable, or of being unable to make restitution, leads to what they term "cheap" forgiveness. This inauthentic version of forgiveness either will not truly ease the pain of the individual because it comes too easily, or will only reinforce the "narcissistic tendencies" of our era, and allow the person to avoid taking responsibility for his or her actions. Vitz and Meade proposed instead that what is meant by self-forgiveness, when it is healing, is actually self-acceptance. They did not, however, propose a mechanism through which the self can accept a previously unacceptable aspect of the self without also splitting.

Wenzel, Woodyatt, and Hedrick (2012) suggested instead that the problem with the concept of self-forgiveness resides both in the reliance on self-report measures of self-forgiveness that emphasize positive self-regard as the desired outcome and the conflation in research of self-forgiveness with saving face by diminishing one's responsibility or the severity of the wrongdoing. When responsibility for wrongdoing is not accepted, and one's wrongful behavior and its consequences are minimized, the occasion is set for pseudo self-forgiveness. Over time, this false forgiveness can result in unacknowledged feelings of shame and avoidant behavior. "To genuinely forgive oneself, one must firstly acknowledge the wrongdoing and

accept responsibility." (p. 617)

According to Wenzel et al. (2012), engaging in conciliatory behavior, or admitting to one's wrongdoing, reaffirms the importance of the common values between the offender and the victim that were violated by the offense, and begins to distance the offender from the wrongdoing. In doing so, the inverse relationship between acceptance of responsibility and positive self-regard is severed, which facilitates the process of genuine self-forgiveness. However, this is a process that requires time to reconcile feelings of guilt with a positive self-view.

While making the important point that forgiveness cannot occur without an element of personal acceptance of responsibility and time, Wenzel et al.'s (2012) position largely treated forgiveness as static and dichotomous, rather than as a dynamic process existing along a continuum.

Personality factors. Maltby, Macaskill, and Day (2001) examined the relationship between personality, general health, and the ability to forgive others or the self. Earlier research suggested that forgiveness of self was related to one's intropunitive style, or tendency to internalize blame, while forgiveness of others was related to one's extrapunitive style, or tendency to externalize blame. The failure to forgive either self or others had previously been associated with greater psychopathology, but the relationship to personality traits was not established.

Maltby et al. (2001) used the Eysenck Personality Questionnaire and the General Health Questionnaire to assess intropunitive and extrapunitive styles. They found that an intropunitive style was reflected in measures of neuroticism, depression, and anxiety, while an extrapunitive style could be seen in psychoticism and low extraversion scores. This study also found that a

failure to forgive, either others or self, was strongly associated with higher scores for depression. Gender-related personality and wellbeing differences were seen in relation to forgiveness of others: Men who failed to forgive others tended to have lower extraversion scores, while women who failed to forgive others tended to have higher social dysfunction and psychoticism scores. For both men and women, these characteristics reflect an extrapunitive style. Failure to forgive oneself was not significantly different between men and women however, and consistent with an intropunitive style, was significantly and positively associated with neuroticism, anxiety, and depression. Maltby et al. (2001) were uncertain why there were gender differences for forgiveness of others but not self-forgiveness and suggested more research is needed in this area. It does seem possible that psychosocial differences in the acculturation of males and females are being tapped by these measures in relation to forgiveness of others.

Trait empathy was also assumed to be a characteristic determining the degree of difficulty a person will have in reaching a state of forgiveness, with those high in the trait finding it easier to forgive, while those without empathy finding it difficult, if not impossible, to forgive. Macaskill, Maltby, and Day (2002) noted however that the relationship between forgiveness and empathy had not been empirically studied. Using the Forgiveness of Self and Forgiveness of Other scales and a measure of emotional empathy, they found that among men and women, those high in trait empathy generally found it easier to forgive others than those low in trait empathy. However, this finding did not extend to self-forgiveness, suggesting that forgiveness of others and forgiveness of self may be distinct constructs.

The five-factor model of personality. The five-factor model (FFM) of personality, also known as the "Big Five," is a multidimensional conceptualization of personality. In this model, the five dimensions of personality are Openness-Closedness to Experience,

Conscientiousness-Undirectedness, Extraversion-Introversion, Agreeableness-Antagonism, and Neuroticism-Emotional Stability. Ross, Kendall, and Matters (2004) studied the relationship of forgiveness of self and forgiveness of others to the FFM to verify the independence of the constructs. Because of the continuing lack of consensus as to the definition of forgiveness, they decided to use multiple forgiveness measures that were believed to tap into self or other-forgiveness. Using the Neuroticism, Extraversion, Openness Personality Inventory-Revised (NEO-PI-R), a personality measure based on the FFM, Ross et al. (2004) found that self-forgiveness was best predicted by the Neuroticism domain, which accounted for 40% of the variance, and with the Depression facet the single best predictor. Likewise, the Agreeableness domain best predicted other-forgiveness, accounting for 29% of the variance, with the Compliance, Trust, and Tender-Mindedness facets being the strongest predictors. Like previous studies, they found that forgiveness of others related to an extrapunitive personality style while self-forgiveness related to an intropunitive personality style.

Ross et al. (2004) performed a factor analysis of the forgiveness measures and found that a two-factor model provided the best fit for the data. Self- and other-forgiveness loaded onto separate factors, with no double loading and nonsignificant zero-order correlations. This indicates that self- and other-forgiveness are in fact different constructs rather than separate points on a common continuum and, as such, they need to be considered separately.

State versus trait forgiveness. Eaton, Struthers, and Santelli (2006) defined dispositional or trait forgiveness as a general tendency to be forgiving, while state forgiveness is defined as forgiveness following a specific transgression. They hypothesized that good self-esteem buffers individuals from interpersonal transgressions, so those with a low sense of self-worth will tend to be less forgiving generally, as well as less likely to forgive in specific situations. However, they

found that when individuals were assessed following a transgression experience, a dispositional tendency towards forgiveness did not in fact predict state forgiveness.

Wohl, DeShea, and Wahkinney (2008) also found that a dispositional tendency to forgive did not predict how the individual would respond in a specific situation. The State Self-Forgiveness Scale was developed by Wohl et al. to measure the degree to which a person had forgiven him or herself for a specific offense, as determined by the attitude towards the self he or she endorsed. They found that an individual's level of self-worth, sense of guilt, or his or her satisfaction with life was not related to whether self-forgiveness occurred for a particular offense. Instead, they found that self-forgiveness allowed people to think about the self positively, permitting constructive actions towards the self. This aligns with other forgiveness literature that associates self-forgiveness with better mental health.

Gender differences. Lawler-Row et al. (2007) found that men and women differed in measures of state forgiveness, with men scoring higher in state forgiveness than women. Men were more likely to define forgiveness as something that occurs passively, while women were more likely to endorse an active definition. Overall, higher forgiveness scores were achieved for those defining forgiveness as a passive process characterized by a reduction of negative thoughts and feelings than for those who defined it as an active process, with an increase in positive thoughts and emotions. Because it is more culturally acceptable for men to acknowledge anger, it may be easier for them to let go of angry feelings than it is for women. For women, the lack of anger resolution, even when they are taking positive action to forgive, may lead to unconscious conflicts that reduce the potential benefits of forgiveness.

Conceptualizations of Forgiveness

Forgiveness as a process. Rather than existing as a dichotomous structure in which one

has either forgiven or not forgiven, forgiveness can more usefully be thought of as a process occurring along a continuum (Cosgrove & Konstam, 2008; Hall & Fincham, 2005). Movement along this continuum is gradual, proceeds nonlinearly, and involves choice: It does not simply happen (Cosgrove & Konstam, 2008). The pathway towards forgiveness is dependent on whether it is directed toward another (interpersonal) or toward the self (intrapersonal; Hall & Fincham, 2005) and can be conceptualized as a coping strategy employed to relieve painful feelings and thoughts about being wronged (other-forgiveness) or doing wrong (self-forgiveness). Though the pathways for interpersonal and intrapersonal forgiveness are distinctively different, an attitude of forgiveness occurs through a gradual shift away from a negative perception of the wrongdoer (whether self or other) to one that is more positively oriented (Hall & Fincham, 2005; Maltby et al., 2001; Rangganadhan & Todorov, 2010).

Process models of forgiveness are varied, but according to Denton and Martin (1998), the process tasks generally fall into three categories of movement towards forgiveness. The first general task category is recognition of the transgression, which also involves the ability to face the experience and its associated painful feelings. The second task category involves the decision to forgive the offender and to release painful feelings rather than ruminate on the offense or seek revenge. The third task category comprises the actions the individual must take to release negative emotion. These tasks can include a combination of cognitive, affective, and behavioral actions.

Dispositional forgiveness. People who are dispositionally inclined to forgive tend to be high in the Big Five factors of agreeableness and emotional stability. Agreeableness as a trait encompasses characteristics such as generosity, altruism, empathy, and care, while emotional stability appears to be protective against negative emotion, moodiness, and overly sensitive

appraisals of the intents and motives of others. These are people who tend to flourish interpersonally (McCullough, 2001). While these trait-based tendencies make it more likely that a person dispositionally inclined to forgive will do so more easily, forgiveness is process driven and is not guaranteed based on personality type.

Decisional forgiveness. Decisional forgiveness is a cognitive process in which the offended person grants forgiveness but does so without releasing the negative emotion associated with the transgression (Elliott, 2011). This may occur as a pragmatic decision regarding the necessity of continued contact with the transgressor, or as a judgment of the value or worthiness of oneself as the victim (Toussaint & Friedman, 2009). It may also occur because of social pressure (Sells & Hargrave, 1998) or role expectations (Kaminer et al., 2000). While decisional forgiveness may restore surface harmony, resentment may continue to linger (Elliott, 2011). Even so, it is a critical step in the process that can eventually free the individual from angry and hurt feelings and replace them with a sense of empowerment (Legaree, Turner, & Lollis, 2007). Interventions designed to help the offended party make the cognitive decision to forgive the offender may be effective in neutralizing a cycle of hostility, but have empirically demonstrated insignificant effects in stress reduction and emotional health. Over time however, it is possible for decisional forgiveness to transform into emotional forgiveness (Elliott, 2011).

Emotional forgiveness. Emotional forgiveness is conceptualized as the "letting go" of negative emotions, such as anger, hurt, bitterness, or resentment toward the transgressor and replacing them with positive emotions such as peace, love, compassion, or understanding, even though the transgressor has no right to expect such treatment (Elliott, 2011; Kaminer et al., 2000). This voluntary relinquishing of the "right" to retribution through forgiveness allows the injured person to discard the role of victim in relation to the offender, cease rumination about the

injury, and to resume personal control of his or her life (Elliott, 2011; Jacinto & Edwards, 2011). Reconciliation is not a necessary condition of emotional forgiveness, though forgiveness is required for true reconciliation to take place in the case of interpersonal transgression (Kaminer et al., 2000).

Hall and Fincham (2005) distinguished between two types of emotional self-forgiveness: (a) forgiveness of self-inflicted harm, which can include thoughts, feelings, or desires that the individual believes to be morally wrong; or (b) forgiveness for an offense or injury to another, which may include recognition of flaws in one's character that have resulted in a pattern of similar behaviors. Taking responsibility for one's wrong actions leads to feelings of guilt and remorse, which are necessary to motivate change that can result in self-forgiveness. Hall and Fincham further distinguished feelings of guilt from feelings of shame, which can have vastly different outcomes. In the instance of feelings of guilt that result from one's actions or thoughts, the focus is on what was done (the offense) and its presumed impact on another, which motivates one to change. Shame however is self-focused, and rather than motivating change, may motivate avoidance because of its negative impact on self-worth.

Differentiating self from other-forgiveness. Wohl et al. (2008) defined self-forgiveness as "a positive attitudinal shift in the feelings, actions, and beliefs about the self following a self-perceived transgression or wrongdoing committed by the self" (p. 2). As opposed to other-forgiveness, in which the individual is the victim of an interpersonal injury, in self-forgiveness the individual is the offender, even if the offense is not against another person. This can lead to feelings of guilt, shame, and self-condemnation, which can then result in depression and anxiety (Worthington, Witvliet, Pietrini, & Miller, 2007).

Woodyatt and Wenzel (2013) described three possible responses after committing an

offense against another: (a) externalizing responsibility to neutralize a sense of shame; (b) responding self-punitively or by self-condemnation, which is expressed by avoidance, has an egocentric focus, and results in negative relational outcomes; or (c) genuine self-forgiveness, which includes a recognition of one's culpability, the worth of one's victim, and which results in an attempt to change and repair the situation. Self-forgiveness allows one to think about and act constructively towards oneself, and may be a catalyst for personal growth (Rangganadhan & Todorov, 2010; Wohl et al., 2008). Pseudo self-forgiveness, on the other hand, is characterized by the downplay of guilt or personal responsibility for an offense to restore or maintain one's self-esteem (Wenzel et al., 2012). It is not associated with restorative benefits, but instead with a lack of empathy (Woodyatt & Wenzel, 2013).

Wohl et al. (2008) emphasized the importance of differentiating between the constructs of self-forgiveness and other-forgiveness. While self-forgiveness may be influenced by another person, it is intrapersonal, and is therefore independent of whether the wronged other forgives. Lack of forgiveness of another is distinctively different from a failure to forgive the self (Wohl et al., 2008). Though forgiveness of another may occur in the absence of reconciliation with the offender, self-forgiveness cannot; if the self is split between the aspect of the self that committed the wrong, and the aspect that upholds or reaffirms the values it has transgressed against, self-forgiveness can only occur through the reconciliation of these parts of the self (Hall & Fincham, 2005).

Self-forgiveness, however, is more than being self-compassionate and accepting. It requires taking responsibility for one's perceived wrong-doing and replacing self-directed negative emotions, thoughts, and behaviors with "compassion, generosity, and love" (Wohl et al., 2008, p. 2). In this way, genuine self-forgiveness reflects a process of integration of

wrong-doing into a complex, multivaried view of the self (Woodyatt & Wenzel, 2013). As stated by Woodyatt and Wenzel:

> By admitting responsibility, expressing guilt and shame, and showing repentance an offender acknowledges their violation and reaffirms the values that have been violated by the offense, affirming their moral identity to both their victim, their community, and themselves. In this way, genuine self-forgiveness severs the link between responsibility acceptance and negative self-regard. (p. 232)

In the absence of an acknowledgement of wrongdoing or a failure to take responsibility for one's actions, the concept of self-forgiveness is meaningless (Wenzel et al., 2012).

Failure to forgive can be viewed as an intrapersonal self-punitive, or disciplinary, style in self-forgiveness, and interpersonal in other-forgiveness (Wohl et al., 2008). When a transgression occurs, it typically results in feelings of uncertainty and has an impact on feelings of self-worth or self-value. Woodyatt and Wenzel (2013) found self-punitiveness to be negatively associated with self-esteem and future hope. They further found that self-esteem was increasingly affected over time. These negative effects can lead to defensiveness, which may be expressed by avoidance of the transgressor or reminders of the transgression, holding a grudge, or seeking revenge (Eaton et al., 2006).

Ruminating on transgressions inflicted by another is also negatively associated with forgiveness; it has the effect of prolonging anger, which interferes with the process of forgiveness. By reactivating cognitions and emotions related to the perceived offense, rumination continues to trigger physiological activation pathways (McCullough, Bono, & Root, 2007). As noted by McCullough et al.: "Rumination may cause a re-experiencing of the cognitive, affective, motivational, and physiological consequences of the transgression as if it were

occurring once again…" (p. 491). This is considered an "extrapunitive style," and is reflective of an externalization of blame (Ross, Hertenstein, & Wrobel, 2007).

However, when one is unforgiving towards oneself, the impact can be even more serious, and is associated with depression, anxiety, distrust, and poor self-esteem (Maltby et al., 2001). Because it is not possible to avoid oneself to escape from reminders of one's offense (Hall & Fincham, 2005), the individual may react with feelings of being damaged and unacceptable, reflecting an "intropunitive style" (Ross et al., 2007). Blame is internalized and can result in denial and suppression of feelings of guilt and shame. Thus, the psychological implications of self-forgiveness further distinguish it from other-forgiveness (Wohl et al., 2008).

The Relationship of Forgiveness to Health and Wellbeing

Both emotional (state) and dispositional (trait) forgiveness have been associated with better mental and physical health, and the connection can be explained in several ways. Lawler et al. (2005) suggested both direct and indirect pathways by which forgiveness could influence health. Though they found that existential wellbeing, conflict management, lowered stress, and reduced negative affect all mediated between forgiveness and health, negative affect was the strongest mediator for both state and trait forgiveness. They concluded that deleterious health consequences of unforgiveness may be the result of elevated negative affect.

Forgiveness as a coping mechanism. Worthington and Scherer (2004) further suggested that forgiveness is a coping mechanism used to manage the stressful negative emotions of unforgiveness that occur in reaction to an interpersonal offense. The person who is the recipient of the offense experiences "physiological, cognitive, motivational, behavioral, and emotional stress reactions" (p. 387) as the result of his or her primary and secondary appraisals of the interpersonal injury. The amount of unforgiveness the injured person experiences is directly

proportional to the size of the gap between how he or she believes the offense should be resolved, and where it currently stands. Further, it is inversely related to the ability of the individual to forgive. The disparity between the desired outcome and current process can widen or narrow the gap, as further events exacerbate or mitigate the problem. Negative emotions, such as resentment, anger, hostility, fear, depression, vengefulness, and bitterness comprise unforgiveness and may be strengthened through rumination about the offense.

Forgiveness as a coping mechanism reduces the stress of unforgiveness and thereby improves health. In support of this hypothesis, Worthington and Scherer (2004) noted several findings that link physiological stress responses with research on forgiveness and unforgiveness, including sharing the same regions of brain activity, hormonal secretion patterns, sympathetic nervous system activity, and blood chemistry.

Forgiveness as an evolutionary survival strategy. Neuroimaging studies have revealed changes in limbic system activity and associated structures when people imagine angry, aggressive situations. Activity increases are seen in the anterior cingulate cortex (ACC) and decreases occur in the orbitofrontal cortex, which is closely associated with the limbic system. The orbitofrontal cortex is important in the integration of emotional experiences, in motivation, and in the inhibition of aggressive behavior. To engage in socially inappropriate behavior such as aggression, the orbitofrontal cortex must be suppressed. When orbitofrontal cortex activity is compared between men and women, it appears that it requires more suppression of inhibitory control for women to engage in or even imagine aggressive acts. This is consistent with research findings that women inhibit violence more than do men (Worthington et al., 2007).

Interestingly, Worthington et al. (2007) found that the ACC, which responds to both physical and moral pain, also showed greater activation in women during visualization of hurtful

events than in men, and was similarly activated when visualizing granting forgiveness. They reported a strong correlation between the level of activation of the ACC and the individual's capacity for granting forgiveness. As they noted:

> These findings suggest that morally hurtful events likely elicit a stronger response in the areas of the brain that process the affective valence of stimuli in females than in males. The anterior cingulate cortex was strongly engaged when subjects granted forgiveness; furthermore, the degree of neural activation was correlated with the individual's capability to grant forgiveness. (p. 295)

The ACC is modulated by opioids, hypnosis, and placebo effects, leading to increased levels of monoamines in the brain and producing analgesia, and which stimulates positive feelings. Both hypnosis and placebo effects can stimulate the production of endogenous opioids, and the placebo response has been demonstrated to utilize the opioid pathways in the brain (Kradin, 2008). These findings led Worthington et al. to propose that forgiveness is an evolutionary survival strategy that acts to mitigate distress and lessen the harmful effects of chronic stress.

Forgiveness as a protective factor against health-damaging stress. Many chronic health conditions are now recognized as being embedded within social and interpersonal contexts, and many originate in early life. People exposed to early adversity and its concomitant stress experience physiologic "weathering" which is associated with a shortened life span. Forgiveness as an intervention can help disrupt patterns of chronic negative affect that can result from early adversity, and improve stress levels and emotional health (Elliott, 2011). Toussaint, Owen, and Cheadle (2012) studied the hypothesized link between forgiveness and longevity. They noted that religiousness, spirituality, personal control, happiness, self-esteem, and optimism were protective factors, while depression, anxiety, and self-reported poor physical

health were associated with higher mortality risk. Forgiveness was positively associated with the protective factors, while unforgiveness was associated with the mortality risk factors.

Toussaint et al. (2012) hypothesized that forgiveness should be a protective factor, correlated with better health and greater longevity. Though their study was preliminary, they found that the conditional forgiveness of others, defined as the withholding of forgiveness until the offender has met whatever conditions of apology or reparation the hurt individual expects, is associated with a higher mortality risk. They speculated that this may be due to the extended amount of time the individual spends in a state of unforgiveness waiting for the offender meet his or her requirements before granting forgiveness.

Holding a grudge keeps the injury "fresh" and locks the individual in the role of victim. Ruminating about the offense maintains the negative emotions that extend the harmful physiological effects of unforgiveness. Developing forgiving responses, such as empathy and compassion towards the offender, whether self or other, can improve a sense of wellbeing through a reduction in stress, reduced physiological reactivity, freedom from chronically negative emotions, and improved physiological and mental health (Witvliet, Ludwig, & Vander Laan, 2001).

Literature Review: Chronic Pain

What is Pain?

Pain has been defined by the International Association for the Study of Pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage" (International Association for the Study of Pain, updated 2012). By this definition, pain is comprised of two components: sensation and affect. At the sensory, biological level, pain is the body's way of signaling illness or injury and demanding

appropriate action to protect itself. So what does emotional experience have to do with pain?

Pain is a subjective experience: definitions of pain vary across individuals and are based, at least in part, on attitude and history. As a result, the severity of injury or tissue damage does not always correlate well with the level or intensity of pain perception. Mood and affective states can actively contribute to the perception of pain, which may be influenced, in turn, by personality traits (Gonzales, Martelli, & Baker, 2000).

The mechanisms of pain are still poorly understood, particularly for persistent pain, which continues after an injury or illness has otherwise seemingly resolved and which sometimes occurs even in the absence of any known illness or injury (Banks & Kerns, 1996). Current research is leading to a better understanding of pain processes and discovering physiological changes associated with persistent pain, lending support to the claims made by sufferers of chronic pain that their experience is "real." According to MacDonald and Leary (2005), evidence suggests that the physiological mechanisms and pathways of pain are shared for the experience of physical and emotional (social) pain, though the sensory modalities through which threat signals are encountered are typically quite different. As they note, "whereas physical pain is most frequently registered via direct touch, stimuli that create social pain typically come in the form of sights or sounds, often through stimuli with purely symbolic meaning (i.e., words, gestures, facial expressions)" (MacDonald & Leary, 2005, p.210).

For social animals, such as humans, inclusion in the social group is critical for survival. Any threat to this inclusion, such as loss, separation, or rejection, is experienced as a threat to safety. Nature is conservative and the physical pain system had already evolved at the point that social animals emerged. Rather than developing an entirely new system to manage social threats to survival, the physical pain system was co-opted, resulting in social threats being experienced

as pain (MacDonald & Leary, 2005). Neuroimaging has shown that both emotional and physical pain activate the same region of the brain, clearly indicating this overlap (Flaskerud, 2011). According to MacDonald and Leary, research has also demonstrated that just thinking about separation from those who are significant in one's life make death-related thoughts more accessible. Even our language reflects this dual purpose: *hurt* or *bruised* feelings, *heartbroken, disheartened, heart ripped out, heartache, cut to the quick, crushed,* emotionally *scarred, deeply wounded*. In fact, we lack words to describe hurt feelings in purely emotional terms (Flaskerud, 2011; MacDonald & Leary, 2005). Social pain hurts because exclusion can result in death (MacDonald & Leary, 2005).

The emotional component of pain serves to promote learning to avoid situations that threaten social inclusion as well as to provide a rapid response system in the presence of warning signs of social exclusion. This rapid response system activates in the same way the fight/flight/freeze response does to physical threat. The analogous social threat responses have been termed *acquiescence* (cautious approach through apology), *invulnerable* (avoiding or withdrawing from the source of hurt), and *active verbal* (an aggressive verbal response) (MacDonald & Leary, 2005).

Like physical pain, social pain appears to be regulated by approach/avoidance behaviors. This is expressed in terms of the need to belong (activating approach behaviors, i.e., pursuit of social engagement) versus the fear of social rejection and exclusion (activating avoidance behaviors, i.e., reactions to social absence) and is thus integral to attachment. The human experience of pain in response to social exclusion motivates individuals to avoid those behaviors that lead to social isolation and seek those that signal safety through inclusion. Because organisms learn to fear both pain and the cues associated with pain, humans are more likely to

avoid those actions which result in social pain in the future and engage in those that promote affiliation (MacDonald & Leary, 2005). Forgiveness is one such affiliation-promoting behavior.

The physical and emotional interconnectedness of pain mechanisms is seen most clearly in infant attachment behavior. For the infant, the reliability of social support is learned through the responsiveness of caregivers to its signals of distress. The caregiver's absence and the experience of physical pain through hunger or cold become associated and are relieved in the caregiver's presence (MacDonald & Leary, 2005). The development of the placebo response is conjectured to be inherently tied to attachment strategies. This is exemplified by the upset infant who soothes in response to the caregiver's presence before the source of discomfort has been relieved, or the caregiver's kiss that takes away the pain of the three year old's scraped knee. As noted by Kradin (2008):

> Attachment is largely evoked by discomfort, so it stands to reason that the early mental representations that develop during early attachment may also serve as templates for the placebo response. The parallels between attachment and the placebo response are so extensive as to suggest that they may be the same. (p. 140)

The implications of the dually purposed pain system are of particular importance in the context of chronic pain, where the drawing of distinct lines between physical and emotional pain is unhelpful. The embarrassment and frustration that many chronic pain sufferers experience when others do not understand their pain can lead to feelings of exclusion, devaluation, and rejection. This can increase suffering, which can intensify the pain experience. MacDonald and Leary (2005) suggested that:

> Encouraging feelings of social acceptance may help to alleviate pain complaints….Such affirmation may help break a cycle in which feelings of

> exclusion contribute to inexplicable pain, the expression of which alienates the pain sufferer from others and leads to increased exclusion that then exacerbates the pain further. (p. 217)

Acute pain. Acute pain responses typically involve protection of damaged tissues, reduced activity, and future avoidance of the stimulus, and are therefore strongly linked to cognition and affect (Lyon, Cohen, & Quintner, 2011). To survive, organisms must be able to learn to detect and remember danger, which neuronal plasticity makes possible. A variety of peptides are involved in these behavioral and affective processes and are found in a wide variety of organisms, suggesting their evolutionarily conserved status from early in the emergence of vertebral life. These peptides appear quite early in human development, and can be detected at 5–7 weeks gestation. This is several weeks earlier than neurotransmitters such as serotonin, vasopressin, and oxytocin are produced, which speaks to the evolutionary importance of pain for survival (Lyon et al., 2011).

Chronic pain. Chronic or persistent pain is pain that is experienced almost every day for at least 6 months, resulting in the need for long-term treatment. As opposed to other medical conditions which may also involve pain, such as cancer, chronic pain is the only disorder which is defined by its primary feature and symptom—pain—and which is further defined by the presence of an emotional component (Banks & Kerns, 1996).

Chronic pain has long been considered primarily a psychosomatic rather than medical problem. In recent years however, a multiplicity of etiologies to the development of chronic pain have been discovered, underlining the complexity and interconnectedness of the physiological pathways involved, as well as the unlikeliness of a single solution to the problem of persistent pain. Though these discoveries validate the experience of the sufferer as being “real,” attitude

changes towards patients by healthcare providers and society at large have been slow to follow. Chronic pain is probably best understood as a multidimensional phenomenon that encompasses interacting physiological and psychosocial factors to create the individual experience of, and reaction to, pain (Gonzales et al., 2000).

Pain models. Many theories regarding the physiological structures of pain have been proposed over the years. More recently, the mapping of affective pain pathways on these physiological structures has also been offered. The following is a brief sampling of the research literature in these regards.

Gate control theory. The most well-known and supported model of pain is the gate control theory, first proposed by Melzack and Wall in 1965. Though it has been adjusted and refined as more is learned regarding the physiological structures involved, this theory continues to provide the best explanatory model for the physiological and psychological aspects of the experience of pain.

According to this theory, the peripheral nervous system has both thin (pain; C-fibers) and thick (pressure, vibration, and touch; A-fibers) fibers that carry messages to transmission cells and inhibitory cells in the dorsal horn of the spinal column. Both A and C fibers excite transmission cells, which send the message on to the brain, where it is interpreted and acted upon. However, these transmission cells are modulated by inhibitory interneurons. Thick fiber signals tend to excite these inhibitory neurons, which has the effect of dampening transmission cell firing. Thin fiber signals impede the inhibitory interneurons, leading to greater excitation and firing of the transmission cells (Melzack & Wall, 1965).

It is the balance of A and C fiber signals relative to each other that determine what is transmitted. A greater proportion of inhibitory thick fiber signals will result in less pain

transmission, which is thought to be why rubbing or applying pressure to an injured site reduces the perception of pain. A-fiber neurons are myelinated and fast, while C-fiber neurons are unmyelinated and slow. If something interferes with thick fiber neuron signals, the signals produced by the slower thin fiber neurons tend to produce throbbing, aching, and more diffuse pain, common in chronic pain (Melzack & Wall, 1965).

Neuronal plasticity. The plasticity of the nervous system allows it to adapt to changing circumstances, but is also responsible for the variable relationship between noxious stimuli and the perception of pain intensity (Lyon et al., 2011; Perrot, Dickenson, & Bennett, 2008). These changes can result in abnormal patterns of neuronal activity, such as nerve ending sensitization in the peripheral nervous system (PNS), hyper-excitable ascending spinal cord neurons, and modulatory changes in descending tracts. The descending tracts have recently been discovered to have a signal facilitation function in addition to their predominantly inhibitory role. Spinal sensitization, resulting from a shift from modulation to facilitation activity, acts to amplify these descending signals, which promotes development and maintenance of persistent pain (Perrot et al., 2008).

Central nervous system sensitization. Several chronic pain disorders show neurophysiological changes consistent with central nervous system sensitization, though these changes may originate in peripheral system dysfunction or abnormality (Perrot et al., 2008). Sensitization occurs when an acute pain response that is normal and protective leads to exaggeration and prolongation of pain sensation. The negative feedback loop that would normally inhibit pain is itself inhibited from activating, resulting in continuous pain sensation (Wierwille, 2012). Interestingly, long-term localized pain is the most common precursor to the development of fibromyalgia (FMS), the most prevalent of the chronic pain disorders (Jensen et

al., 2012).

Similarly, Perrot et al. (2008), reported that fMRI studies found evidence of widespread pain processing and activation, with cortical or subcortical involvement. The same areas of the brain were activated in normal and chronic pain subjects, with seven common regions showing involvement: the contralateral primary and secondary somatosensory cortex, the inferior parietal lobule cortex, the superior temporal gyrus, the insula and putamen, and the ipsilateral cerebellum. Simultaneously, the ipsilateral primary somatosensory cortex showed a decrease in activity (Perrot et al., 2008, p. 180). This suggests that both normal and chronic pain subjects are not different in where pain is processed within the brain, but in how it is processed.

Peripheral nervous system sensitization. According to Wierwille (2012), the peripheral nervous system (PNS) is also implicated in the development and maintenance of chronic pain. The PNS transmits sensory information to the limbic system, which is then forwarded through the hypothalamic-pituitary-adrenal (HPA) axis, which activates the sympathetic nervous system (SNS). Due to CNS hypersensitivity in chronic pain, the HPA-axis is continuously activated, which results in a chronic stress response from the SNS due to increased pain perception. Sustained SNS activation hypersensitizes the PNS, which re-initiates the cycle. This chronic SNS response also leads to muscle contractions throughout the body, resulting in muscle hypoxia, which is experienced as fatigue. Muscle hypoxia triggers glial cells to release inflammatory mediators. Skin biopsies of FMS patients at “tender point” locations have consistently revealed visible demyelination of neurons and inflammation of peripheral nerve fibers.

Hypothalamic-Pituitary-Adrenal axis. The HPA axis is the body’s primary stress circuit and the brain’s primary interface with the immune system, the limbic system, and the dorsal horn of the spinal cord, which itself is the central pain pathway (Lyon et al., 2011). When an

individual is exposed to chronic stress, the HPA axis stimulates increased cortisol production. To restore homeostasis, the body attempts to compensate for higher levels of cortisol by over-producing glucocorticoids, the counterbalance to cortisol. This overcompensation then results in a cortisol deficiency. As cortisol plays an important function in the circadian rhythm, sleep becomes disrupted as cortisol levels are depleted (Wierwille, 2012).

Global stress response. All organisms seek to maintain homeostasis, and continuously assess their internal and external environments for anything that may threaten this. Lyon et al. (2011) suggested that these internal and external events are compared against the current "set point" of homeostasis, and are then judged as adequate for continued homeostasis, threatening or challenging homeostasis, or as enhancing function. Anything perceived as threatening or challenging to homeostasis represents a stressor and the organism's self-protective response is a stress response. From this viewpoint, Lyon et al. proposed that the central sensitization believed to underlie chronic pain represents part of a global stress response.

Research finds that sensitivity to pain is influenced by stress and the type of response that is demanded of the situation, as well as by prior pain experience and stress chronicity. A hyperalgesic response is favored (a) in situations in which a "fight or flight" response is appropriate; (b) with prior pain experience; or (c) when stress is chronic. Conversely, situations in which an active response is not possible favor an analgesic response (Crettaz et al., 2013). While this has been demonstrated experimentally with animals, Crettaz et al. were the first to show that this response pattern is also true for humans. All their research participants responded to induced stress with greater pain sensitivity to thermal stimuli, but only those diagnosed with a chronic pain disorder also demonstrated a lower pain threshold for pressure stimuli. They posited a causal relationship between cortisol levels and pain sensitivity, and suggested that the

differential responding of the subjects with chronic pain was indicative of alterations in the processing of those stimuli in central pain processing structures.

Descending pain modulatory system dysfunction. According to Jensen et al. (2012), chronic pain alters thalamocortical connections in such a way that thalamic feedback is disrupted. They postulated that the descending pain modulatory system (DPMS) is key in the homeostatic modulation of pain, and disruption or dysfunction in this system is responsible for the maintenance of chronic pain. They cited neuroimaging studies that showed increased responses to experimental pain stimuli by participants with FMS as compared to normal controls, differences in resting state connectivity, brain atrophy in regions associated with pain processing, and altered neurotransmission as evidence of this dysfunction.

Normal control participants in these studies showed higher connectivity between the rostral anterior cingulate cortex (rACC) and areas of the brain associated with descending pain modulation, such as the hippocampi, amygdala, brainstem and the rostral ventromedial medulla (RVM). Greater connectivity was also seen in areas associated with emotion and endogenous pain modulation (the orbitofrontal cortex and the thalamus), which is suggestive that chronic pain can be viewed as a "thalamocortical dysrhythmia" (p. 7).

In participants with FMS, Jensen et al. (2012) noted that the rACC failed to activate in response to pain stimuli. Recent research suggests that rACC activation is necessary for the experience of reward connected to pain relief. It is also believed that the hippocampi are involved in the "aversive drive and motivational dimension of pain" (p. 6). The lower connectivity in these areas that is seen in FMS patients is postulated to represent an attenuated defensive response to pain due to constant pain activation. In sum, subjects with chronic pain showed "lower functional connectivity within the pain inhibitory network of the brain" (p. 5). No

brain areas examined in subjects with chronic pain showed greater connectivity than in normal controls.

Interestingly, activation of the ACC is associated with pain affect but not with pain intensity. Imaging studies using fMRI have shown that the ACC activates in response to social exclusion similarly to its response to physical pain. Specifically, changes in the perceived unpleasantness of pain are associated with activity changes in the ACC, but not in areas associated with pain perception (MacDonald & Leary, 2005).

Nucleotide polymorphisms. Both Bradley (2008) and Perrot et al. (2008) reported that single nucleotide polymorphisms (a DNA variation in which a single nucleotide in a sequence varies between paired chromosomes) are associated with FMS. These have been found in the serotonin transporter (5-HTT) gene and the dopamine D4 receptor (DRD4) gene (Bradley, 2008). When compared to normal control subjects, FMS patients consistently have low blood serum serotonin levels, low levels of serotonin metabolites (Bradley, 2008; Wierwille, 2012) and low levels of dopamine in their cerebrospinal fluid (Wierwille, 2012). Serotonin is involved in pain pathway inhibition and dopamine is involved in analgesic effects (Wierwille, 2012).

Periaqueductal gray. The periaqueductal gray (PAG) is active in relation to physical pain and to bonding behavior. It coordinates the body's panic response at three levels: (a) the caudal lateral PAG, which prepares the body for flight when stimulated; (b) the intermediate caudal lateral PAG, which is active in confrontational defense (fight); and (c) the ventrolateral PAG, which is associated with social defeat, depression, quiescence, and hyporeactivity (the freeze response) (MacDonald & Leary, 2005). The PAG is responsive to social cues regarding separation, as well as to physical pain, and coordinates the responses to both. It appears that, for interdependent animals, social exclusion is processed as a primal threat. MacDonald and Leary

suggested that this indicates that separation distress evolved from more basic pain systems, which explains the perception of physical pain in the context of social exclusion distress, particularly separation.

Chronic Pain and Affective States

Because the experience of chronic pain is a complex interaction of physiological, behavioral, cognitive, social, and emotional factors, the experience of pain is subjective; therefore, responses to chronic pain are as varied as the individuals who suffer with it, ranging from good adjustment to complete emotional and physical disability (Adams, Poole, & Richardson, 2006; Fernandez & Turk, 1995). The production of negative emotional states that adversely affect how pain is experienced and tolerated is catalyzed by the significant disruption chronic pain typically causes in the sufferer's life (Tan, Thornby, Jensen, & Sloan, 2008).

Yet not all individuals with chronic pain also experience negative affect. Coping strategies, broadly defined as "the strategies (or thoughts and actions) that individuals engage into [*sic*] manage their pain on a daily basis" (Adams et al., 2006, p. 292), are integral in determining how an individual is affected by chronic pain, and whether or to what degree co-occurring affective disorders, such as depression or anxiety, will be present. The coping strategies employed by an individual may be determined in part by variables such as perceived locus of control, self-efficacy, avoidance, and passivity (Adams et al., 2006).

Personality factors may play a role here as well: On the extraversion-introversion continuum, extraverts are less sensitive to rejection, have higher levels of self-esteem, have a higher pain threshold, and higher pain tolerance when compared to introverts. Extraverts are also more likely to express that they are in pain (MacDonald & Leary, 2005). MacDonald and Leary postulated that, in evolutionary terms, pain equals weakness, which increases the likelihood of

social rejection. Introverts, being more sensitive to rejection signals, are less likely to express their pain to others while experiencing it more intensely. They noted that over time, chronic pain sufferers tend to become more introverted, begin to avoid social situations, and become more socially anxious.

Cognitive Appraisals of Chronic Pain

The occurrence of stressful events or situations lead individuals to assess the impact of that stressor on his or her wellbeing. These cognitive appraisals broadly include assessment of (a) harm or loss; (b) threat; or (c) challenge (Herrero, Ramirez-Maestre, & Gonzalez, 2008). When chronic pain is the stressor, the way individuals assess its impact is highly influential on their subsequent coping strategies.

When chronic pain is assessed as a threat, harm, or loss, a more passive and emotion focused coping style is likely to be utilized. However, when chronic pain is appraised as a challenge, the individual is more likely to engage in active, problem-solving strategies and to show healthier adjustment. The passive response results from feelings of helplessness, or the individual's belief that he or she has no control of the situation. This passive type of appraisal is also associated with greater perceived pain, poorer adjustment to the situation, and higher rates of depression (Herrero et al., 2008).

According to Beck, Rush, Shaw, and Emery (1979), the depressed individual routinely utilizes faulty cognitions such as catastrophizing, overgeneralizing, engaging in absolutist thinking, and making logic errors, which lead to negative cognitions about the self, the world, and the future. To test the theory that individuals with chronic pain engage in cognitive distortions, Lefebvre (1981) conducted a study in which subjects with and without depression, and with and without chronic pain, were administered a General Cognitive Error Questionnaire

(GCEQ) and a Lower Back Pain Cognitive Error Questionnaire (LBP CEQ). The depressed subjects with chronic pain showed the greatest cognitive distortions of the four subject groups on the LBP CEQ. They scored particularly high in catastrophizing, overgeneralization, and selective abstraction specific to vignettes regarding chronic pain. In all other areas, the cognitive distortions of both depressed subject groups were commensurate. Because there were significant differences in the distortions between depressed individuals with and without chronic pain in relation to scenarios about chronic pain, these findings suggest that the experience of pain is itself the central dimension of depression in those suffering from both.

The Relationship of Self to Body

The self can be conceptualized as a complex and ever-changing set of schemas organized by an individual into past, present, and future representations. In the absence of disease or pain, the body is generally invisible to the self within this organization. However, when pain, particularly persistent pain, draws attention to the body, this organization of self-schemas is disrupted (Osborn & Smith, 2006). The individual's sense of self is gradually worn away, and the person is left feeling trapped in a foreign body and disempowered as he or she loses the ability to fulfill the roles his or her identity is built around (Tang, Goodchild, Hester, & Salkovskis, 2010).

Persistent pain impinges on the individual's concept of self in relationship to the physical body (Osborn & Smith, 2006). Crowe et al. (2010) described this impingement on the individual's concept of self in relationship to the physical body as the result of the body becoming "the object of action rather than the means through which action was achieved" (p. 591). This contrast between the ideal self (with no pain) and the current painful self intrudes on the individual's sense of identity, especially in relation to his or her future possible selves. The

more the individual's positive sense of self is dependent on the absence of pain, the greater the likelihood that his or her identity will become enmeshed in the pain experience (Morley, Davies, & Barton, 2005).

Osborn and Smith (2006) conducted an interpretative phenomenological analysis (IPA) of interviews conducted with participants diagnosed with benign low back pain who had all stopped working due to their pain. Analysis of the semi-structured interviews consistently revealed a change in how each participant related to and was aware of the parts of the body that were now painful or impaired. According to Osborn and Smith, "They were now very much more aware of these parts of the body and associated them with feelings of exclusion, alienation, rejection, and powerlessness" (p. 218). Participants often drew distinctions between their physical body before and after the onset of pain, with the original body being part of the preferred self, and the current painful body rejected as alien to and outside the "real" self. Within this structure, the painful body was associated with negative aspects of the self. While this rejection appears to be a means of defending the preferred self-concept, it also hinders integration of the new reality into a new identity and may therefore serve to prolong and probably enhance distress. The finding that individuals who have participated in pain management programs seem to develop a more positive sense of self supports this idea.

In the same vein, Afrell, Biguet, and Rudebeck (2007), in an interpretative hermeneutic study, discerned four typologies along an acceptance-rejection of body continuum for individuals with chronic pain. The first two categories, which they called "Surrendering to one's fate" and "Accepting by an active process of change," are points of acceptance and integration as the individual becomes "whole" once again, despite a changed body. The second two categories, which they called "Balancing between hope and resignation" and "Rejecting the body," represent

a relationship of ambivalence or rejection of the painful body. While the authors speculated that this might be a reasonable short-term response to a crisis, in the long-term, in which the pain may be a permanent feature of life, these two categories mire the individual in a static stance with little hope for a better future. As they noted, "To live with chronic pain, you have to accept the fact that pain might persist. Otherwise, attention cannot be shifted to nonpain aspects of life" (Afrell et al., 2007, p. 291). Analogous to the process of forgiveness, the movement towards re-integration of self and body in the presence of chronic pain appears to be non-linear. Ambivalence and non-acceptance of the body and the pain can become permanent, though even in these categories at least a small amount of hope for a better future often remains.

Emotion and the Experience of Chronic Pain

Happiness, sadness, anger, fear, and disgust are identified by Finucane, Dima, Ferreira and Halvorsen (2012) as basic emotions that are distinct from each other in their physiological and behavioral expression and in how they are appraised or evaluated by the individual experiencing them. While positive emotional states appear to provide a protective health factor associated with physiological changes such as improved immune function and increased longevity (Richman et al., 2005), negative emotional states have been linked to poor health in both short and long-term outcomes. Detrimental physiological changes, such as decreased immune function, and risky health behaviors, such as drinking and smoking, significantly contribute to these undesirable outcomes (Banks & Kerns, 1996).

Finucane et al. (2012) determined that it was possible to distinguish various populations, including those with depression, chronic pain, and posttraumatic stress disorder (PTSD), from healthy populations based on their dominant emotional experience. In contrast to healthy populations, who report high levels of well-being and frequent positive emotion, the emotional

experience of chronic pain sufferers is dominated by anger, fear and sadness. They hypothesized that emotion, along with sensory and appraisal factors, are associated with the experience of pain.

Anger. Anger is among the most commonly experienced emotions found in people suffering from chronic pain. Research has demonstrated that those with chronic pain are less willing to express their anger in comparison to other medical patients and are more likely to inhibit it, possibly in an effort to avoid interpersonal conflict that could jeopardize their support system (Okifuji, Turk, & Curran, 1999).

Internalized anger. Internalized anger has been associated with increases in the perception of pain, with depression, and with adverse effects on health such as hypertension, coronary heart disease, diabetes, and cancer (Fernandez & Turk, 1995; Kerns, Rosenberg, & Jacob, 1994). Kerns et al. posited that internalized anger may heighten sensitivity to pain by interfering with the brain's production of pain moderating opioids. This creates a vicious cycle in which heightened pain sensitivity results in greater loss and disruption in major life activities, increasing anger, fear, anxiety, and sadness, and further hampering the ability of the body to moderate the pain.

Middendorp et al. (2010) studied the effects of anger suppression versus expression in women with FMS. Suppression of anger, particularly for women, is generally deemed more socially appropriate, but is a costly strategy. Women who experienced an event in their daily lives that engendered anger, and subsequently suppressed its expression, rated their pain as significantly more intense at the end of the day than did those who expressed their anger as it arose during the day. Burns et al. (2013) similarly found that experiencing spousal criticism or hostility was also associated with reports of increased pain intensity and more pain behaviors.

This tendency towards anger suppression is more prevalent amongst those women who had suffered from FMS longer and those who had higher levels of anger in general (Middendorp et al., 2010).

***Perceived injustice*.** The perception of injustice in the context of chronic pain encompasses multiple elements, including the severity and permanency of loss, blame, and a feeling of unfairness (Pâquet et al., 2016). How individuals adjust to chronic pain is influenced by the meaning they ascribe to it. When loss and suffering are felt to be undeserved, justice and injustice become an integral part of the meaning-making dialogue. If the suffering and loss associated with chronic pain are blamed on external sources, a perception of injustice is induced (Scott, Trost, Bernier, & Sullivan, 2013). According to Pâquet et al., "Perceived injustice is a psychosocial factor that is socially patterned and is associated with psychological consequences such as anger, powerlessness, guilt, or depression" (p. 80). Those who blame an external source for their situation appear to experience more distress and to respond more poorly to treatment, leading to the development of beliefs regarding entitlement to revenge, the need for amends, and justice. Anger may also be provoked when the individual believes that the person assigned fault is indifferent to his or her situation or refuses to accept responsibility for his or her harm-inducing actions (DeGood & Kiernan, 1996).

Scott et al. (2013) found that state anger and anger inhibition were strongly associated with the perception of injustice and pain intensity. They posited that the perception of injustice may precede the anger often noted in individuals with chronic pain, which in turn may initiate a physiological cascade, with more intense pain and its effects as the consequence: Perceived injustice has been associated with greater pain severity, pain behavior, and mental health difficulties, reduced physical function, and prolonged work disability. Perceived injustice

predicts adverse pain outcomes even when controlling for other pain-related psychosocial constructs, such as pain catastrophizing and fear of movement (Scott et al., 2013, p. 1691). Viewed in this context, pain behaviors can be a means of evoking validating responses from others for the injustice of living with undeserved pain.

Self-Anger. Okifuji et al. (1999) examined the targets of anger in 96 men and women being treated for chronic pain. High levels of anger were common towards the person believed to be at fault for his or her current condition and towards his or her healthcare providers. However, the most common target by far, both in frequency and intensity of anger, was him or herself. Analysis of the results of this study revealed that anger towards oneself and overall intensity of anger were both significantly related to pain and to depression.

Frustration. Several studies have reported that frustration is the strongest and most common feeling reported by individuals in relation to his or her chronic pain experience. This is particularly true for those whose future goals are dependent on the elimination of pain. For those individuals, chronic pain becomes an impenetrable barricade, leading to intense feelings of frustration, hopelessness, and depression, which can clearly impede a healthy emotional adjustment (Morley et al. 2005). As noted by Okifuji et al. (1999), "Prolonged decline in functioning, perception of pain as a central feature of their lives, and sense of helplessness may all add to a sense of frustration, leading to an elevated level of negative attributions about oneself" (p. 10).

Depression. The high associations between chronic pain and depression are widely recognized, and are significantly higher than with other chronic medical conditions (Banks & Kerns, 1996; Brown, 1990). It is estimated that between 30–54% of clinic-based chronic pain patients and 16% of general population chronic pain patients also suffer from a major depressive

disorder. Because of the often prolonged delay in seeking psychological assistance while medical options are being exhausted, many chronic pain patients are already clinically depressed by the time they are seen for psychological assessment and treatment (Banks & Kerns, 1996). A diathesis-stress model, proposed by Banks and Kerns, described how chronic pain differs in significant ways from other medical conditions, and results in greater vulnerability to depression. These differences include: (a) being symptomatic (pain is a constant reminder of the problem); (b) being an aversive sensation; (c) being inescapable; (d) being psychologically distressing; (e) interfering with concentration; and (f) interfering with a broad spectrum of life activities, including sleep. When compared to acute pain, the persistent nature of chronic pain means the individual is in contact with these aversive stimuli far longer, which is more stressful both physically and psychologically. Additionally, chronic pain patients may find themselves being subtly blamed or invalidated by medical personnel when treatments fail. These differences may invest pain, as a stressor, with greater potency to trigger depression (and conversely, for depression to make pain worse), thus explaining the high rates of co-occurrence.

Mental defeat. Tang et al. (2010) examined the construct of mental defeat in relation to depression in chronic pain. They define mental defeat as "a state of mind marked by a sense of a loss of autonomy, agency and human integrity" (p. 547), and believed it represented a form of catastrophizing about the future impact of pain on one's sense of self, identity, and agency. The authors described this state of mind as comparable to that seen in victims of torture or assault who go on to develop chronic depression and posttraumatic stress disorder. When confronted with intractable pain despite all efforts to eliminate it, people become trapped in a cycle of pain, hypervigilance, and worry. They become less flexible in problem-solving, and less able to reappraise the situation and readjust valued goals in accordance with the new circumstances of

their lives. According to the authors, compared against other predictors of depression, pain interference, and disability, such as rumination, health anxiety, and pain intensity, the strongest predictor is mental defeat.

The benefits of positive affect. Positive affect is associated with better coping ability and an increased sense of self-efficacy. Increased self-efficacy in turn is associated with short and long-term improvements in functioning and a decrease in the experience of pain, which directly speaks to quality of life concerns (Park & Sonty, 2010). Studies have demonstrated that mood influences reported levels of pain and alters pain tolerance: increases in pain intensity and decreases in pain tolerance are observed with depressed mood, and the inverse is seen with positive mood (Tang et al., 2008). Positive affect appears to provide a protective health factor against disease development or progression, speeds homeostatic processes, and strengthens the immune system (Richman et al., 2005).

Emotion and belief are bidirectionally related and interact reciprocally: changes in emotion can engender changes in belief while changes in belief can influence emotion (Boden & Berenbaum, 2010). As beliefs about one's health can be significantly influenced by emotion, leading to increased stress (Richman et al., 2005), the ability to sustain positive emotion in the face of increased stress and pain may be an important factor in effective coping (Park & Sonty, 2010). This in turn may be important in breaking the negative pain-stress cycle which traps many chronic pain sufferers. Forgiveness, whether of self or of other, may be one avenue by which positive emotion can be elicited.

The Role of Trauma in Chronic Pain

In their groundbreaking research on the long-term impact of adverse childhood experiences (ACE study), Felitti et al. (1998) demonstrated the relationship between adult health

outcomes and early life experiences. Individuals who experienced abuse or grew up in a dysfunctional household were found to have multiple risk factors for many of the leading causes of death among adults. The likelihood of having these risk factors significantly increased according to the number of categories of adverse childhood experiences an individual was exposed to by the age of 18. Though chronic pain was not among the conditions included in this study, its relevance to chronic pain lies in the clear connection the study makes between psychosocial experiences and biophysical outcomes. A meta-analytic review of the literature by Davis, Luecken, and Zautra (2005) confirmed this connection, finding moderate effect sizes between self-reports of childhood abuse or neglect and current symptoms of chronic pain.

Traumatic events have both psychosocial and biophysical sequelae. The immediate response to trauma is one of acute stress, which activates the SNS, the HPA axis, or the immune system to protect the body. Multiple, sustained, or severe adverse events can turn this protective response into a pathological, chronic response, particularly when experienced early in life. One outcome of these pathophysiological changes can be the development of chronic pain (Wuest et al., 2009).

A large body of research exists examining the relationship between early maltreatment and the development of a chronic pain condition. Abnormalities in HPA axis activity (Nicolson, Davis, Kruszewski, & Zautra, 2010) and immune response (Wuest et al., 2009) have been associated with childhood trauma and chronic pain. Over and underproduction of cortisol has consistently been noted (Nicolson et al., 2010), as well as chronic inflammatory responses, which are regulated by cortisol levels (Wuest et al., 2009). Sexual and emotional abuse in childhood are found to have the strongest associations with HPA axis dysfunction and resultant cortisol production abnormalities (Nicolson et al., 2010).

Cortisol levels typically vary in the normal population, particularly in relation to positive and negative affect. Positive affect is associated with lower cortisol levels in the normal population and negative affect with higher levels. In addition, social stressors can evoke powerful physiological reactions: as noted by MacDonald and Leary (2005), "The threat of social evaluation is unique among psychological stressors in stimulating the release of high levels of cortisol" (p. 206). However, Nicolson et al. (2010) found that in those with chronic pain, cortisol levels were higher overall than in those without, but daily mood, pain intensity, interpersonal stress, and sleep disturbance were not associated with changes in cortisol levels. Nicolson et al. hypothesized that this apparent decoupling of cortisol production from affect in the chronic pain population was the result of exposure to pain as a chronic stressor. Allostasis, the body's process of maintaining homeostasis, is overwhelmed under conditions of chronic stress. The allostatic overload caused by chronic pain is believed to alter the pathways between affect centers and the HPA axis. The findings of this study suggest that it may be difficult to detect any physiological correlations between chronic pain and self-forgiveness.

The Multiple Impacts of Chronic Pain

Individuals with chronic pain are often left to navigate the medical system on their own in search of relief, answers, and validation of their experience, but without a clear understanding of the complex nature of their disorder. When the medical establishment cannot provide effective treatment for the pain, uncertainty becomes a key feature in the life of the individual: uncertainty about the future, about whether the pain will ever be alleviated, about the cause of the pain, and about its short and long-term impact on his or her life (Banks & Kerns, 1996). In these instances, psychological factors, such as emotion, cognition, and behavior become even more central to mediating the pain experience. In turn, psychological factors may be influenced or shaped by the

social dimensions of the individual's life. Varying degrees of incapacitation can cause difficulties in work, leisure activities, daily living, and sexuality, leading to disruptions in social, family, and marital relationships. The summation of all these factors may lead to a loss of meaning or purpose in life for the individual with chronic pain. Thus, for the chronic pain patient, psychological, social and physiological features are enmeshed.

In Crowe et al.'s (2010) qualitative study of the experience of chronic pain in patients with chronic lower back pain (CLBP), four major themes emerged from the interviews describing the impact on the participants' lives: the unpredictability of the pain, the need for vigilance, the externalization/objectification of the body, and alterations to the sense of self. The unpredictable nature of chronic pain resulted in behavioral and cognitive changes associated with increased vigilance towards the body. This heightened vigilance was experienced as needing to pay close attention to movements and activities that could formerly be completed without any conscious attention. Having to consciously attend to movement and routine daily activities resulted in a sense of alienation from one's body, with study participants often talking about his or her body as if it were a separate entity. And this sense of alienation from one's body changed the person's sense of self, particularly as their ability to fulfill roles that were part of their identity was diminished.

Patient Burden of Chronic Pain

The patient burden of chronic pain, as defined in terms of functional, social, psychological, and cognitive impact, and overall quality of life, is substantial. It is the negative social impact, however, that may be the most damaging and distressing aspect of the condition. The lack of credibility that chronic pain patients often endure with their medical providers, family, friends, and colleagues serves to compound and amplify the pain experience (Annemans,

Le Lay, & Taïeb, 2009; Geenen, Jacobs, & Bijlsma, 2009). While patients with other medical conditions that include pain as a component, such as cancer, usually garner support, the chronic pain patient often gets invalidated, sometimes subtly, by those they depend on emotionally. The fact that chronic pain is not a visible pathology, and is therefore almost always diagnosed by exclusion, can leave its victims feeling dismissed, invalidated, demoralized, and unsupported. As noted by Crowe et al. (2010) in their study on the experiences of individuals with CLBP, "The moral character of the patient became a central issue, for in the absence of visible organic pathology then the patient was regarded as either malingering or having psychological problems" (p. 587).

Diversity Considerations

Racial/ethnic differences. The experience of pain appears to vary across racial and ethnic groups in terms of sensitivity to pain, pain sites, type of reported pain, pain tolerance, labels used to describe pain, pain behaviors, methods of coping with pain, level of dysfunction related to pain, interference with daily life, and emotionality (Riley, Robinson, Wade, Myers, & Price, 2001; Tait & Chibnall, 2005). For example, Riley et al. found that while African-Americans did not differ from non-Hispanic Whites in their reports of pain intensity, their assessment of pain unpleasantness, their emotional responses to pain, and their pain behaviors were found to be significantly different. Among African-Americans, pain was experienced as more unpleasant, they were more distressed, and their pain behaviors were more overt (Riley et al., 2001). Additionally, African-Americans reportedly used more passive coping strategies, such as prayer or distraction, than their Caucasian counterparts, and this coping style was associated with poorer outcomes in the treatment of chronic pain (Tait & Chibnall, 2005).

Experimental research in the United States regarding racial differences in pain perception

and coping has primarily been focused on African-Americans and Caucasians. Though results consistently demonstrate statistically significant differences, with African-Americans appearing to be more sensitive to pain across a variety of stimuli, the effect sizes are small. Tait and Chibnall (2014) point out that factors such as racial concordance between researchers and research participants have not been accounted for in the research on pain perception differences, which is one of several socially mediated factors that could influence the results. As a result, the clinical value of these findings is questionable.

Because pain is a subjective experience, and medical decision-making is not free of the social context in which it is embedded, the diagnosis and treatment of chronic pain is highly vulnerable to psychosocial influences, such as racial and ethnic stereotyping. The primary means of assessing pain is through patient self-report, which can generate uncertainty on the part of the healthcare provider, and activate his or her implicit biases. These biases can be particularly damaging to patients who do not fit positive stereotypes—typically minority members of society—and lead to under-diagnosis and treatment (Tait & Chibnall, 2014). As a result, the relationship between the physician and the patient is of paramount importance in receiving appropriate treatment. When the relationship is positive, the patient's report of pain is more likely to be validated than when the relationship is negative (Tait & Chibnall, 2005). However, there is a long history of treatment disparity for members of racial/ethnic minority groups in the United States, resulting in less trust in the medical community by minority members, and beliefs that the medical care they receive is of lower quality.

Substantial evidence exists that when doctor-patient pairs are racially discordant, healthcare needs are not met in the same way they are in concordant pairs. Non-minority physicians are found to have a greater tendency to question the legitimacy of their minority

patients' pain complaints, underestimate the intensity of their pain, and discount their reported symptoms relative to their response to pain complaints from their non-minority patients. These problems are exacerbated as the reported severity of pain increases, even when there is medical evidence to support the patient's report (Tait & Chibnall, 2014). As stated by Tait and Chibnall (2005): "Minority patients are particularly vulnerable to symptom discounting in light of evidence that minority race is associated with a variety of negative physician attitudes" (p. 598). Additionally, physicians tend to be more concerned about the potential for drug abuse in their minority patients. These factors result in less aggressive treatment and under-prescription of medication for pain control by physicians, less participatory decision-making regarding healthcare needs and treatment, and lower expectation of treatment effectiveness by their minority patients. Thus far these factors have proven refractory to correction (Tait & Chibnall, 2005, 2014).

Socioeconomic status. The high covariation in socioeconomic status (SES) with race and ethnic membership is a further confound to understanding the association between race/ethnicity and how chronic pain is experienced. Tait and Chibnall (2005) noted that controlling for SES eliminated some of the apparent racial and ethnic coping differences when compared to Caucasian pain patients. This finding emphasizes the importance of attending to the psychosocial reality of the client, of which race/ethnicity is only a part, as an active factor in the experience of chronic pain.

Gender differences. In assessing gender differences in response to chronic pain, Riley et al. (2002) found that when chronic pain patients were asked to rate their highest level of pain, their lowest level of pain, and their "usual" level of pain, men and women did not differ on their lowest ratings, but women rated their highest pain intensity levels significantly higher than did

men. These differences also extended to differences in negative emotion associated with rated pain intensity and pain unpleasantness. For women, level of pain unpleasantness was associated with the degree of depression and fear, while pain intensity was associated with increased feelings of frustration. For men, increased pain unpleasantness was associated with higher levels of frustration, and high pain intensity was associated with anxiety and depression (Riley et al., 2002). Gender differences were also found amongst individuals with FMS by Castro-Sánchez et al. (2012). They concluded that women experienced greater psychological distress than men, and were more likely to catastrophize their pain, but that women coped with their pain more adaptively than did men. Men were more physically disabled by FMS, and although their highest pain intensity scores were similar to those of women, their mean pain scores were lower. The authors speculated that this could reflect a psychosocial effect, in which it is less acceptable for men to report pain. They concluded that chronic pain was experienced differently by men and women with FMS: For men, its somatic and physical impact was more significant, while for women, it was more relevant psychologically and cognitively (Castro-Sánchez et al., 2012).

Chronic Pain and Forgiveness: Why it Matters

Forgiveness is a mechanism through which negative emotions, such as anger and resentment, are released and replaced with positive emotions, such as love and compassion (Carson et al., 2005). As emotional forgiveness of self, other, or an event or situation provides a means of releasing negative emotion and replacing it with positive emotion, those who suffer from chronic pain may stand to benefit from approaches that assist them in increasing their ability to emotionally forgive. The benefits could potentially include improved health, resulting in decreased utilization of healthcare, improved productivity, increased subjective well-being, and a better quality of life.

Research has established strong relationships among affect, chronic pain, and health (e.g., Fernandez & Turk, 1995; Kerns et al., 1994; Richman et al., 2005; Tan et al., 2008), and among affect and forgiveness, and health (e.g., Elliott, 2011; Kaminer et al., 2000; Karremans & Van Lange, 2008; Sells & Hargrave, 1998; Strelan & Covic, 2006). The overlap between these areas is suggestive of an inverse relationship between emotional forgiveness and the perception of pain in chronic pain. However, a database search of PsychInfo, inclusive of dissertations, using the search terms *forgiveness* and *chronic pain*, yielded only one hit, a preliminary study by Carson et al. published in 2005. As a result, though the research on chronic pain, affect, and forgiveness are suggestive separately and in two of the three possible pairs (chronic pain and affect; affect and forgiveness), there is little research examining the presence of a link between chronic pain and forgiveness.

In the single previous published exploration, Carson et al. (2005) sought to determine (a) whether two aspects of forgiveness (current level and efficacy) could be measured in people with chronic pain; (b) how much variability participants would demonstrate on the dimension of forgiveness; and (c) whether these variations were meaningful in understanding how people adapt to chronic conditions. They found that chronic pain patients who reported higher levels of forgiveness also reported lower levels of psychological distress, were better able to resolve feelings of anger, and had lower scores on the McGill Pain Questionnaire (MPQ; Carson et al., 2005).

Carson et al.'s study (2005) was intriguing but left unanswered some important questions. Though they looked at two dimensions of forgiveness—(a) the degree to which forgiveness had already occurred; and (b) the amount of confidence the individual had in their ability to forgive—they did not differentiate between trait and state forgiveness, self or other forgiveness,

or between decisional and emotional forgiveness. As is the case with many studies of forgiveness, the Carson et al. study was cross-sectional in design, so they also essentially assessed forgiveness as a fixed state rather than as a dynamic process. The narratives of individuals' experiences with chronic pain and forgiveness were also not included in this interesting preliminary study.

The purpose of this study was to explore the individual experience of emotional self-forgiveness and perceived level of pain in women with chronic pain as expressed within their narratives and reflected in their questionnaire responses. I was curious as to whether the participants' reported experiences of pain and level of self-forgiveness were associated and if that association could be captured within their narratives. I was also curious as to whether their narratives would indicate that they experienced chronic pain as a body "betrayal," and if so, whether they had experienced or contemplated forgiveness in relation to their painful body parts. As parallels seem to exist between the process of accepting one's own body and moving forward with life in the presence of chronic pain, and the process of genuinely forgiving oneself and releasing negative affect, I wondered if women's pain and self-forgiveness narratives would reflect the emotional shift from negative to positive that accompanies genuine emotional forgiveness, and if this influenced how they talked about their experience of pain.

As significantly more women than men are diagnosed with chronic pain, and because men and women appear to forgive and to experience chronic pain differently, this exploratory study was limited to female participants. This limitation was not meant to imply that men's experiences are less important, but because the sample size was expected to be quite small, I was concerned that any emergent common themes from this homogeneous group might be masked in a mixed gender sample. For example, men and women are acculturated differently regarding the

emotion of anger, which frequently co-occurs with chronic pain and which also underlies a lack of forgiveness. The impact of anger on the perception of pain is well-demonstrated in the chronic pain literature, and in the forgiveness literature, the release of negative emotions such as anger is necessary for genuine forgiveness to occur. As anger is generally an acceptable emotion for men to express within our culture, it may also be easier for men to let anger go. For women, anger is not considered acceptable to express, leading them to internalize anger instead, leading to increased pain and potentially creating greater difficulty for them in coming to a state of genuine forgiveness. This significant difference in how anger is processed and released by men and women had the potential in such a small study sample to override subtler emergent themes that might otherwise be more apparent in a homogeneous sample.

Method

Research Design

This study was primarily qualitative in design, but included an exploratory and supplemental quantitative component. In our culture, in which empirical science is honored as the highest form of knowing, a qualitative viewpoint tends to hold lesser standing, but may be a better way of understanding people's lived experiences in their daily lives. Interpretative Phenomenological Analysis (IPA) is a qualitative methodology used to understand and explore how people make meaning and sense of their world through broadly framed research questions in the context of in-depth, open interviews (Smith & Osborn, 2008). Because the researcher cannot fully access the meaning-making of another person, the interview data is subjected to a process of interpretation in which the researcher attempts to make sense of how the participant makes sense of the world, a "double hermeneutic" (Smith & Osborn, 2008, p. 53).

In contrast to empirical research design, the IPA researcher does not approach the process

with a predetermined hypothesis (Smith & Osborn, 2008). IPA produces highly detailed information regarding the understandings and experiences of a small participant pool (Smith & Osborn, 2008) and its focus on first person experience keeps it firmly grounded in context (Larkin, December 1, 2011). As this is an idiographic approach to research, it can provide information about the specific participants involved, but cannot be generalized to the population at large except as it links theoretically to the related literature base. However, the depth and richness of information an IPA study can add to this literature is what makes it such a powerful tool (Smith & Osborn, 2008).

This study used two quantitative measures, the Differentiated Process Scale of Self-Forgiveness (DPSSF; Woodyatt & Wenzel, 2013) and the West Haven-Yale Multidimensional Pain Inventory (WHYMPI; Kerns, Turk, & Rudy, 1985) Both measures are in the form of self-reports tracking current experiences of self-forgiveness and chronic pain respectively. As there is a dearth of research into the relationship of chronic pain and forgiveness, these measures were used in an exploratory fashion to supplement the interview information.

Participants. Participants were drawn from a convenience sample of adult women with chronic, nonmalignant pain of at least six-month's duration. Following a model for collective case study sampling (Mertens, 2010), six women with chronic pain who resided in Vermont, New Hampshire, or Massachusetts, were recruited through their therapists to participate in the study (see Appendix A for recruitment letter). After giving a brief explanation of the study and receiving written consent for participation, audio recording, and use of direct quotes (see Appendix B for informed consent), I conducted face-to-face interviews with all six women.

Two of the participants subsequently dropped out of the study during the survey

completion phase, resulting in a final study size of four participants. One participant dropped out due to a developing crisis in her family that did not allow her to devote the time needed to the study for survey completion. The other sent a message indicating she thought she was completing one of the questionnaires incorrectly. She subsequently failed to respond to any attempts to contact her (phone calls with voice messages, texts, or email) I made over the next eight weeks, leading to my reluctant conclusion that she no longer wished to participate.

Each participant was interviewed for 35–70 minutes, using a semi-structured format guided by an interview outline (see Appendix C for interview outline). This structure provided the flexibility to allow for exploration and modification of questions as new information came to light or seemed fruitful to the question at hand (Smith, 2008). The interviews were audio recorded and transcribed verbatim. Each participant was also provided with a packet containing copies of the DPSSF and the WHYMPI. Consistent with the development of the DPSSF, the participants were asked to answer the survey questions in reference to the same specific interpersonal transgression that had occurred within the previous one to 12 weeks. They were instructed to select an offense that was minor to moderate in nature and assured that they would not share the offense with the primary researcher (see Appendix D for DPSSF instructions). Twice per week over the next three weeks, I texted participants at agreed upon intervals to remind them to complete the surveys for that day. The completed packets were returned via mail, through their individual therapist, or collected directly by me.

The researcher's role. The IPA researcher must have a significant amount of self-awareness, particularly in the area being studied, to have a sense of how his or her own world view and meaning-making influence the interpretation of the data (Larkin, December 1, 2011). Being aware of my own values in relation to this study helped me ensure that all voices

were treated fairly and respectfully in the process. Though I attempted to interpret these narratives as closely to the meanings of the participants' intents as possible, the way people make meaning of their experiences is uniquely personal, and my understanding has necessarily been influenced by my own worldview, which includes being a woman who manages chronic pain. This made it particularly important to make certain my own experience did not predominate my interpretation process. Having an additional reader assist in identifying emergent themes aided in this endeavor.

In addition, I found it necessary at times to resist the pull I felt to respond to a participant's narrative from a clinical stance rather than as a researcher for anything beyond acknowledging and validating the experience being shared. This was particularly true when I heard interview responses that suggested a poor sense of self-value, when hearing highly self-critical remarks, and when the participant delineated unreasonably high standards for herself that no one could be expected to meet. I also found myself wanting to follow up on the mentions of trauma and had to very intentionally not pursue this line of questioning. Knowing that each of the participants were in therapy helped, but even so, I needed to be mindful of what my role was and was not during each of the interviews. I further found that I needed to be mindful when I felt a pull based on my recognition of our shared experiences related to managing chronic pain so that, rather than disclosing that commonality and potentially derailing or diverting the narrative, I kept the focus firmly on the participant and her story.

Measures

Differentiated Process Scale of Self-Forgiveness. The DPSSF (Woodyatt & Wenzel, 2013) is designed to measure self-forgiveness as a process rather than as an end-state. As such, pseudo self-forgiveness and self-punitiveness are believed to reflect the incomplete processing of

an offense either because the individual is unwilling (pseudo self-forgiveness) or unable (self-punitiveness) to do so. The DPSSF further conceptualizes genuine self-forgiveness as "the attempt to understand one's wrongdoing and work through one's guilt" (p. 243). It consists of 20 items across three subscales intended to assess the degree of pseudo self-forgiveness (6 items, e.g., *I'm not really sure whether what I did was wrong*); self-punitiveness (7 items, e.g., *I deserve to suffer for what I have done*); and genuine self-forgiveness (7 items, e.g., *I am trying to learn from my wrongdoing*). Confirmatory factor analysis provided a three-factor solution, with all items loading significantly onto their designated factor, demonstrating good convergent validity. Internal consistency was satisfactory, with alpha coefficients ranging from .81 to .85. A single item self-forgiveness question which allowed the respondent to self-define forgiveness was included and found to be significantly positively associated with the genuine self-forgiveness subscale, significantly negatively associated with the self-punitiveness subscale, and showed no effect with pseudo-forgiveness. In the development and pilot trials of this measure, respondents were asked to answer the survey questions in reference to a specific interpersonal transgression that occurred within the previous one to twelve weeks. Repeated measures over time for the same recent offense demonstrated a progression from pseudo self-forgiveness and self-punitiveness to genuine self-forgiveness. As a new measure, the pilot studies in the development of the DPSSF were conducted with undergraduate student subjects, predominantly female. Its use has not yet been reported with other populations (Woodyatt & Wenzel, 2013).

West Haven-Yale Multidimensional Pain Inventory. The West Haven-Yale Multidimensional Pain Inventory (WHYMPI; Kerns, Turk, & Rudy, 1985) is a 52-item self-report measure covering 12 domains. It is divided into three parts: pain interference,

response of significant others, and activity engagement. This measure has extensive normative data and strong psychometric properties (Grimmer-Somers, Vipond, Kumar, & Hall, 2009). For the purposes of this study, the first part was the most salient and was the only section administered to reduce participant response burden. This section is comprised of 20 questions rated on a 7-point Likert-type scale ranging from "none" to "extreme." Five subscales are derived from these 20 questions: (a) pain interference (e.g., *In general, how much does your pain problem interfere with your day to day activities?*); (b) support (e.g., *How supportive or helpful is your spouse [significant other] to you in relation to your pain?*); (c) pain severity (e.g., *Rate the level of your pain at the present moment*); (d) self-control (e.g., *During the past week, how much control do you feel that you have had over your life?*); and (e) negative mood (e.g., *During the past week, how irritable have you been?*).

Data Analysis Procedures

For the interview material, the step-by-step approach to IPA data analysis recommended by Smith and Osborn (2008), was employed and is described below. The survey data was scored, the results were converted to z-scores for direct comparison between subscales of the two measures, and the resulting graphs were assessed visually per individual.

Finding themes in the first interview. I read the first transcript in its entirety several times. Once I was familiarized with the transcript, I read it again, this time highlighting and notating what stood out. I then read it again, focusing on identifying emerging themes. This process was done for each of the remaining transcripts, and depicted in table form (see Table 1, Appendix E) A second reader, the study advisor, reviewed the transcripts and emergent themes at this stage and agreed with the theme notations. I then uploaded the interview transcripts into NVivo 11, a qualitative analysis software program. I read the first transcript again, and utilizing

the identified early themes, created "nodes" in the software program tying these themes to specific lines within the transcript. In NVivo 11, nodes are coded collections of references from source material—in this case, the transcripts. Once this was complete, I read the next transcript, added material to the corresponding nodes, and created additional nodes for new themes. After this process was completed for all four transcripts, I went over them again with an eye to themes that had not initially been identified for that particular transcript.

Finding connections between themes. Next, I examined the emergent themes for connections and commonalities, and identified theme clusters. From this material, I developed a table of themes (see Table 2, Appendix E) and used this table to place related theme clusters together according to the salience of the material. I titled theme clusters with superordinate theme names ("parent" nodes) within the node structure of NVivo 11, and these were referenced back to each transcript to ensure that the connections were meaningful and accurate to the source material. The software tracks location within each transcript, allowing individual components to be traced back to their original occurrence in each transcript.

Interview analyses. Convergences and divergences in themes across interviews were noted to reflect commonalities in experience between participants, as well as experiences unique to individuals. Once all the interviews were analyzed, superordinate themes were identified and selected based on their commonality, their ability to inform, and their salience in illustrating the narratives. The analyses are presented in the form of a meta-narrative, organized around the three superordinate themes that were identified. Each of these themes is presented with supporting subthemes and direct quotes.

Use of survey data. Though survey data was collected utilizing the DPSSF and the WHYMPI, there were not enough participants in this study to conduct a statistical analysis of the

results. Instead, the data is presented per participant in a visual format and used descriptively as another means of illustrating participants' narratives and experience of chronic pain and self-forgiveness. To effectively graphically represent the relationships between the subscales of the DPSSF and the WHYMPI, which use different scoring systems and numbers of items per subscale, the raw data has been converted to and presented as z-scores (Howell, 2011).

Results

Qualitative and quantitative data are presented in this section. Due to the small size of this study and its exploratory intent, the interview data is primary, while the survey data serves a supplementary role to the participants' narratives. It offers a glimpse of the temporal nature of self-forgiveness and the perception of pain over time for each of the participants.

Research Questions

This study was guided by four main questions suggested by the literature:

1. Do the participants' narratives or survey responses suggest any linkage between self-forgiveness and the perception of pain?
2. Do participants portray their pain experience as a betrayal by their body, and if yes, have they ever forgiven or thought about forgiving that painful body part?
3. Do pain and self-forgiveness narratives reflect the emotional shift from negative to positive that accompanies genuine emotional forgiveness per the literature? If yes, is this influence evident in their narratives of pain? Is it observable in the survey data?
4. What linkages can be made between the literature base and the data from this study?

Participant Demographics

Four women completed the study, and were 29, 32, 49, and 55 years old at the time of their interviews (see Appendix F for demographic information collection form). Three of the

women identified as Caucasian and one as Hispanic. Two did not endorse any religious affiliation, one identified as a non-practicing Roman Catholic, and one identified as a Green Witch. Two indicated they had experienced chronic pain since childhood and neither had received a diagnosis, though it had been suggested to one that she might have fibromyalgia. The other two experienced the onset of chronic pain in young adulthood, and at the time of the interview had had chronic pain for 10 years (rheumatoid arthritis) and 24 years (psoriatic arthritis). The two younger women in the study were both single and the two older women were married. Three identified as heterosexual and one as bisexual. Three were childless and one had a single adult child. One had been home schooled and did not complete high school. One had a high school education, two had master's degrees, and one of those was a doctoral candidate. One was unemployed, one worked part-time, and two worked full-time. To maintain their privacy, pseudonyms are used (see Table 3, Appendix F for demographics summary).

Interview Themes

Three overarching themes emerged in the interviews, supported by multiple related themes and subthemes. These three superordinate themes were: (a) Narratives of Pain; (b) Forgiveness/Self-forgiveness; and (c) Awareness/Experience of Mind-Body Connections. *Narratives of Pain* encompasses each interviewee's experience of the impact of pain on her life and sense of self; the feeling of injustice/unfairness about having chronic pain; the difficulty of having her pain experiences invalidated by others; and strategies for managing pain. The pervasive effects of pain on the daily lives of the participants were dominant in their narratives. *Forgiveness/Self-forgiveness* describes the participants' process of forgiving others or themselves, usually defined in terms of letting go. All four participants found it much more difficult to forgive themselves than to grant forgiveness to others, and described needing a

significant amount of time, self-reflection, and a perspective shift in the instances in which they could move to a state of self-forgiveness. Three of the four described this as an experience of personal growth. Two described feeling unworthy of forgiveness and one of them found it nearly impossible to forgive herself for anything. *Awareness/Experience of Mind-Body Connections* emerged in the context of recognizing the reciprocal relationship of emotional and physical experiences. For three of the women, this recognition was relatively new, with awareness of these connections only coming to their attention since entering psychotherapy. In the following, the themes comprising each of these three overarching themes are described and illustrated with quotes from the interviews.

Narratives of pain. Stories of chronic pain were by far the most dominant aspect of the interviews, testifying to the pervasive nature and impact of chronic pain in the lives of the participants. The superordinate theme Narratives of Pain was comprised of four themes: (a) impact on life and sense of self; (b) unfairness/injustice of having chronic pain; (c) the pain of invalidation; and (d) managing pain.

Impact on life and sense of self. Responses describing the *impact on life and sense of self* are chronicles of feelings of depression, helplessness, self-criticism, self-doubt, frustration, and anger; the loss of important roles, responsibilities, and preferred activities; and experiencing the self as existing outside of the stream of "normal" life. The overall tone of this theme was one of pain interfering with all aspects of daily life, from being able to independently attend to basic self-care to being able to plan a trip to see a friend. As shared by "Sarah,"

> I was, then at that time was only averaging 4 days a week at work. Um, my husband had to dress me. Um, rolling over in bed just was very painful. I mean, trying, I had, I had to, to, I had to plan. I would think about how I was going to get up out of bed every morning

> and I'd have things set up right there where I could just help get myself in the underwear, and help get my pants on, and get my socks on, all while I'm sitting in one place. And then he'd put my bra on me, um, um, it just, yeah, it just went on from there.

This level of interference was experienced as challenging to one's sense of self. As expressed by "Michelle,"

> It's exhausting, but you know, it's like, it, it forces, it forces me to be patient, which I think I'm a patient person, but I'm really not, and that's how I know, because I get very impatient with my body. Um, it's also hard to maintain a sense of self-worth, you know, like it's okay that I can't do that, I'm still a worthy person.

"Shannon" shared the challenge of managing her pain throughout her work-week, and then having no energy left to take care of other important tasks in her life.

> I would get through the work week, and then just crash on the weekends and it would almost be like I could, like, find a way to save my pain, to get through work, and then, whatever, and then the weekends would come and be like "Oh I have to do this dissertation," and I'd, like, have nothing left in me.

"Julia" expressed her discomfort with the changes in her body since developing chronic pain, which then affected her sense of self:

> Being overweight I think has taken a toll on myself because I look back and things that I haven't fully been able to do because they're, I'm in pain, or, um, I get frustrated because I'm in pain. That's changed my view on my whole body because I'm not comfortable with who I am, I guess.

Depression. Navigating the many limitations imposed by chronic pain resulted in feelings of depression, discouragement, resignation, and disappointment. Michelle stated, "I think it

contributes to it feeling…a depression, um, it, it's just all of that, like, you know, I can't do what I want to do. Um, you know, it's, it's hard." Much of the negative emotional experience centered on interactions with the medical community. Michelle shared how disheartened she felt each time her feelings of hope that there might be a solution to her pain were crushed:

> And, and so each time starting with somebody new [medical provider], feeling a sense of hopefulness and then feeling like, you know, this is never going to go away. This is just what I live with in this lifetime and that's all there is.

Shannon stated, "I remember coming out of that doctor's appointment and just crying and feeling tired of—and I'm already tired—I like, I'm tired of coming to these appointments." Julia said, "I can't do anything about it [the pain], so I look to people who you would hope could do something about it, and when they don't know an answer, that's, it just gets worse."

Helplessness. Many of the participants also expressed feelings of being powerless to change their situation. Sarah cried as she shared her grief in being unable to start a family: "I can't believe that life can be like this. Um, I wanted to have a child and I was on so many different medications that I couldn't get pregnant." Michelle talked about coming to a place of resignation regarding her ability to make things better for herself, despite societal messages to the contrary: "And for all the New Age stuff that's out there about, you know, 'choose your thoughts' or 'choose your__' sometimes you, you can't make that choice, no matter how much you want to." She describes her internalized sense of helplessness as something intrinsic to her character: "I call it an Eeyore nature, you know, of like 'Why bother?' Kind of a, I think it helps me to see myself as incapable or like, you know, true, full success and happiness is for other people." Similarly, Julia states "I just kind of, not give up, but, in, in a way, I just go 'Okay, well, that, that's it. I can't do much about it.'"

Self-criticism. Many of the participants expressed self-critical views that often had a self-invalidating tone, rather than feeling compassion for themselves and their situation. According to Shannon:

> So I think there was a time where I felt like other people are in the same boat and aren't, like they can still get things done, they can still be full time workers, they can still be, you know, finishing a dissertation, um, and it feels like I should be able to do it, especially 'cuz there are days when I don't feel, like very obvious pain…I think sometimes I feel like I should be, be able to do even more, than, what I am doing, I guess? Then, but it feels like I'm doing everything I can. And then I'm being, it feels like, you know, everything is like sucked up out of me, like I can't do more but I should be able to.

Shannon appeared to invalidate her own pain experience because she didn't have a specific diagnosis:

> I kind of, I feel like, [heavy sigh] think like, if he [coworker with a pain condition] can do this, like, I should, I shouldn't feel so overwhelmed by this, like, 'cuz he's like also in pain and his pain is maybe, like, there's maybe reasons, specific reasons, and names to it, like, maybe in my mind at the time, like, that pain must have been more legitimate because [long pause]
>
> Interviewer: Because it had a name?
>
> Shannon: Yeah.

Sarah described her moments of sadness or despair in a self-invalidating way: "It's like, 'Why?' You know, then I feel, 'Woe is me.' I do the whole 'Woe is me' thing."

In response to a question about whether she could remember feeling angry with herself, Julia stated, "Yeah. Quite a few different times I think," and she then followed up with a list of

self-criticisms: “Just of, either not being smart enough, not being quick enough, or making the wrong decisions, or letting something happen that I should’ve, many times, yeah."

Self-doubt. The participants also talked about not trusting their abilities or frequently second-guessing their own perceptions. When Sarah finally did become a parent, she shared worrying that she would not be competent:

> The thought that, that went through my mind was, “I don’t think I’m going to be a good, I’m, I, I won’t be a good enough parent for her. Her father will be better than I am.” I, I felt that I would be, not a good parent.

Shannon described her self-doubt in being able to relay her story accurately to medical providers:

> I would get this, um, this nervousness that I was, like, not telling it the same each time, and that, like, then I’m like “Gosh, is this really happening?” like. And when they would ask me questions, I, “Do I feel___?” Like, I would just start kind of second-guessing myself and, like, “Gosh, what if I’m not saying this the right way, like, what if I’m not,” ’cuz some of it’s really hard to describe, like there’s not, it’s not easy to put words to some of the way the pain is felt.

She even questioned whether her experience was real: “There's a lot of self-doubt, like questioning, like ‘Am I imagining things?’”

Frustration. Frustration was a prominent theme for each of the participants. Frustration with others, particularly medical providers, was common, but self-directed frustration because of the limitations imposed by chronic pain was more prominent for each of the participants. When asked about her experience of repeated trips to the hospital, Julia responded:

> Frustrating! Just because there’s, gets to a point where you can feel like, there’ve been a

> few different times where I'll go to the hospital because I can't breathe, or 'cuz I'm in extreme pain, and a lot of times now they ask you like, "Are you even, are you really telling the truth?" And it's frustrating because it, it's so painful…I think when that keeps happening, it's frustrating, definitely frustrating.

Similarly, Shannon shared her frustration with the medical community:

> That, like that appointment was the first one I had actually been to alone. My sister from then on had been going with me to every appointment, but she had just had a baby and I went alone. Um, and totally like, just started crying after that, 'cuz I'd been there like so many times, and it was going into Boston, so it was like impacting my work schedule and like, and I know they said it could take years, but then why am I coming every, so often now, and like you couldn't tell me over the phone that you don't have an answer yet? Like, you know?

Sarah found the process of finding a helpful medication trying: "And it was very frustrating to find medications. It was, it just, medications after medications."

Participants also expressed frustration with themselves, particularly in situations in which pain left them unable to do what they would like to do. Shannon stated, "I feel frustration I guess that I, um, that, that mine [her body] feels, limits me at times." In a similar vein, Julia shared:

> If I'm about to do something or go out and it starts to happen—'cuz that's happened a few times, where I'll get pains, or my knees will be so bad because it's cold out that I can't go sledding, or I can't, you know, go for a walk—that's frustrating.

She also noted a more pervasive frustration with her sense of self:

> And then I think in a way it's kind of changed my view on myself, 'cuz I think the hard part is, is with it, with it stopping me from, kind of living more, or doing more things, I

get frustrated at myself now more than anything.

Anger. Statements of anger were similar to expressions of frustration, and were primarily self-directed. Julia shared feelings of anger and the unfairness of having chronic pain. She said "There's times when I get angry at myself because I'm either too weak, or not good enough, or falling apart, and then I look and go 'I'm too young to be falling apart. This isn't fair.'" Julia also shared the experience of self-directed anger turning to self-criticism and then depression:

> I, like if I feel like I did something, and I upset myself because I felt like it really was wrong, or, or I disappointed myself with it, like it, it would really bring me down to a point where there were days where I would just be so disappointed in myself that I wouldn't want to go anywhere. I didn't want to do anything. I didn't want to talk to anybody, 'cuz I just felt with everything going on in my life, and that, just anger towards myself, it just kind of got to a point where I just didn't want to do anything.

Michelle affirmed feeling angry with her body at times and then turning that anger on herself:

> Um hmm. And angry with myself, you know, like for doing something that I should know better by now. You know, I should know that I can't move this stack of wood without, you know, stretching in between, or without doing it over the course of several days instead of in an afternoon, or, you know, like, I, I get angry with myself for not having applied what I've learned in the past.

In contrast to the other participants' narratives, Shannon denied having feelings of anger, either towards her body, herself, or others, simply stating: "I don't experience a lot of anger in general." For Shannon, frustration was a closer match to her experience: "I don't know that, like, 'angry' is a word that I, like, it's just not something that I, like, there are times I'd maybe be frustrated with myself."

Loss of roles, activities, responsibilities. One of the more difficult challenges faced by chronic pain sufferers is the sense of losing parts of one's identity as roles, responsibilities, and favored activities are impacted by the effects of chronic pain. Michelle gave up teaching after 10 years, stating:

> I noticed at the end of each school year, I needed summer more and more and there seemed like there was less and less of it. So, like over time, I felt like I just became so depleted. Um, so, um, so I left teaching—for many reasons—but one of them was feeling like I just didn't have the stamina for it.

She also found that she had to give up dancing, and shared her sense of loss:

> So when you're in the line, and you, you like have partner after partner who's like with it and on the music, and the music is beautiful, and people are smiling, and you go like from one face to another, it's like there's just this bliss. And I miss that.

Even visiting a friend could be impacted:

> When I booked the tickets, I, I was coming out of a, a, really long stint of being incapacitated by my lower back. And so it was like "Well, we'll see if I can do this. I may or may not be on a plane and I may or may not be able to walk after being on the plane," you know. So it was like "I hope she'll understand if I'm just flat on her floor for a while."

According to Shannon:

> It's impacted some of the roles that I need to do. I mean, like, there've been days, where like, particularly winter time's worse, um, where like I wake up and I just can't be a therapist today, like I, um, like am "calling it in," and I, like I don't feel, I'm not sick, but I'm, I don't feel well. Um, and so, like, that would be like a bit of a struggle.

She also shared the struggle of separating her sense of identity from her chronic pain:

> So that pain, I was just way more aware of it, like, ever since, I became that much more aware of it. And I think for a while it was, I, like it was very much impacting, I, like my ident, like, my sense of who I was. And then I just needed to step back and be like "No," like, "This is something you have, you're dealing with and you have," and, but I, I needed to not, it to stop consuming me, because for a while it really, it was.

Sarah shared how much her pain interfered with family activities, and her fear that she would spoil activities for her husband and daughter if she participated:

> When we want to do something together as a family and it's like, I feel like it's, "Why don't I just stay home?" "No, we want to do this together." I said, "Well, you know the walking really, you know" …I said, "You guys go, just leave me here in the cafeteria." I mean that's what ends up happening, and then I feel like I'm ruining their day.

Julia shared the difficulty of job limitations due to the effects of her pain condition.

> We've tried all kinds of stuff, but it's so painful where I'll get cuts just randomly, so I can't stand on it [her foot] for very long. Um, so that's complicated different jobs of being able to work for 8 to 10 hours. I can't. So that's frustrating.

She also noted, "I think with all the different things that I have that are painful has stopped me from doing things that I love to do." Despite this level of interference, Julia maintains a surprisingly hopeful attitude, which seems to speak to her resiliency:

> I want to, I would like to do more things, but I don't know that it'll stop me. I think I'm getting to a point where I'm trying to just go through it, do it and not think about the pain. But I'm not sure yet if it'll be able, if it'll stop me. Hopefully not.

And when asked about what she experienced when pain interfered with a goal or planned

activity, Shannon responded "Um, I, I think I'm able to accept that about myself," an attitude which seems to be aligned with her stated lack of anger and with her ability to separate her sense of who she is from her experience of pain.

The self as existing outside of normal life. For the two participants who have experienced chronic pain since childhood, there was a gradual awareness that their experience of their bodies was not the usual. Michelle stated,

> I think, um, since childhood I have felt limited in my body. Like I've seen other kids like running full bore and, you know, able to, uh, do all kinds of physical stuff, and I would try to play along with that but notice that something hurt or something was, you know, was really difficult for me, was, felt exhausting or challenging…As I got older, I started to recognize that not everybody felt that way. Like, I, I've asked my partner, you know, "Like if you were to scan your body right now, are there any places that are uncomfortable or actually in pain?" and he's like "Nope." You know, at age 50 maybe it's a little bit different, but when we're in our twenties, I was, like, dang. I really wish that were the case for me.

For Michelle, this has left her feeling on the sidelines of life: "But all of the physicality, all the challenge of moving around in a body just contributes to that, just feeds that message of, um, achieving my goals and living life fully, that's something other people do." Shannon also was unaware of how different her body experience was from that of most people when she took a sleeping aid for her chronic insomnia:

> The first time I had taken something to sleep and had, like, just gotten 8 hours and woke up, like, in the morning and felt amazing, and I was like, "Oh, this is how other people feel?" Like I…it just had never, I just assumed that everyone felt absolutely awful in the

morning, and every, like, not, everyone was always tired, like, um, and then like kind of having that experience, it was like "Oh my gosh."

Unfairness/injustice of chronic pain. Responses within this theme provide a glimpse into the bewilderment and anger the women experience in trying to make meaning of their pain. A sense that having chronic pain was unjust or unfair emerged in the narratives of all the women, particularly in the context of discussing anger. When Julia was asked about whether she felt angry about the painful parts of her body, or about her pain experience more generally, she responded, "I get angry more for why it, why me?" The following exchange about the unfairness of chronic pain occurred with Michelle, also in a discussion about anger:

Interviewer: Do you have the experience of being angry that your body just won't do that, can't do that?

Michelle: Yes. And feeling like it's unfair.

Interviewer: It's unfair?

Michelle: Right. I see all these other people that can move however, however they want to, and I, and I can't, and that feels, yeah, that feels, yeah, punitive. From where, I don't know, but it does feel like, you know, there's definitely a young voice inside that says "That's really not fair!"

Shannon wondered if there was something she should be doing or not doing that was keeping her in pain:

There are times when I guess, when my body's felt good, where I felt just better, like, I guess my mood has been better, and I've been like, 'Oh, my body feels good.' And, um, you, should I, like I, why don't I always feel like this? Like, is it possible for me to, for that to all go away? Is there something that I'm not doing to make that happen? Like, that

> I could just, like, not be someone who experiences pain? Like, but like, you know? Um, you know?

Michelle also wondered about why she has chronic pain, questioning whether she was responsible somehow for its development:

> I also wonder if, like, it, it's hard for me, not to wonder about the origin of it. Not to say "Why is this, why does this happen, and why is it happening to me?" Or, you know, "What have I done to cause this?" or "What happened to me to cause this?...I guess I can't get away from asking the question "What brought about the chronic pain?" Why do some people have it and some people not?

For both Shannon and Michelle, the question they ask regarding why their pain persists has a subtle tone of self-blame, and there is a sense of injustice in their complaints of "Why me?"

The pain of invalidation. Within this theme, participants shared the emotional experiences of having their pain discredited by others, and the subsequent impact of this invalidation on their sense of self. A note of self-invalidation was also present in this area. In talking about a trip to the hospital due to her pain, Julia powerfully shared her feelings of being treated dismissively by a doctor when she was already vulnerable:

> I think the worst part was where, you know, I'm in this extreme pain, and the doctor comes in and asks, "So, what drugs are you looking for?" And I just remember thinking, like, here I feel like I'm dying, and, like I'm about to die here, and this is what you're thinking. That's probably, it, it's so insulting. It's, it's, just makes you feel very little, very insignificant I think.

Michelle noted experiencing invalidating body language from a doctor: "Or maybe it's chronic fatigue syndrome and rolling of the eyes as they say it, or something like that." Shannon shared

experiences of invalidation from both childhood and adulthood:

> I've had it since I was a kid and I couldn't even walk, it was so bad I would crawl. I was like "Wow!" I'd be crying, like the pain was, I remember feeling like I couldn't even breathe at times, it was just so much pain, just for people being like "Just take Tylenol," just whatever, "Just deal with it."

Seeking treatment as an adult, she experienced having her concerns dismissed again:

> I went to this neurologist not that far from here and that experience was absolutely awful. I was in for, like, under 10 minutes, um, like the appointment went by so fast and he was so, like didn't see me as a person.

Managing pain. Participants described the many strategies, coping skills, and mindsets that assist them in managing their pain on a daily basis. These include framing the experience of pain as "normal," using comparisons with those worse off to minimize their own pain, noticing and appreciating small moments of relief, being able to rely on supportive relationships, and being validated by others.

Pain as normal. All the participants talked about their pain as just a normal, if inconvenient, part of their life. Sarah, who has had chronic pain for more than 20 years, said: "I guess when you have it for so long, you, it's just a, you just, it's just, it's just normal…It's just so normal to have it." Shannon stated, "When I was young, it was just a thing that happened and I just took care of it." She reflected on the idea of chronic pain and her concepts of what it had meant to her before coming to realize that she is someone with chronic pain. This included her own internalization of societal dismissiveness towards people with chronic pain:

> I would never call, consider myself with chronic pain. Like to me, that's like an older person who's just complaining all the time. Um, and then when stuff was happening and I

> wasn't feeling well, I was like "Oh my God, I sound like an old woman complaining all the time!"

Further reflection yielded: "I think the, um, idea 'chronic pain' is like, is new to me, um, because part of it was I just grew up always having it and so it just became like a thing that wasn't named." Because she had suffered from chronic pain since childhood, the idea that not everybody felt this way had not occurred to her*:* "Probably not until all of this [seeking medical care] I didn't realize that this is not how everybody feels." Michelle, who has also had chronic pain since childhood, noted "You know, even since being really little, I don't have a memory of feeling good in my body." For her, this is just the normal state of her life. She shared the one memory she has of feeling comfortable in her body:

> One time I remember was when we were away, and I was, it, it was like a vacation. I took a nap in the afternoon and as I was waking up from the nap, I felt good. I just, like my body felt really peaceful and good. And I thought "Oh, this feels really nice. I wish that I could, you know, like stay with this." Um, and, I can't, I can't remember another time when it was just like everything felt good.

When queried about her experience when pain returns when it has been lower than usual, she said, "It just feels like a return to the usual." For Julia, who has not had chronic pain as long, she wondered if perhaps she had habituated to it. "I think it's kind of, maybe I've gotten used to it? Or, I've just come to terms with 'This is just how it's going to be.'"

Use of comparisons. Two participants shared finding it helpful in managing the pain to remind themselves that it could be worse, and that there are people in much worse condition. Sarah shared comparing her situation with that of the patients she assists at the hospital: "I think that's why when I look at, when I work in the hospital—and I work with some of the sickest

sick—you know what? I said, 'My life is so much better than this.'" Shannon reported employing a similar strategy: "I also very much have a sense of, of, um, you know, I don't have cancer, like I don't, I'm not, there are people in much worse pain than I am, and, um, like I always have that awareness."

Importance of supports. People who care, whether a spouse, a parent, friends, a doctor, or even a supervisor, were featured in the narratives as providing important support. Sarah identified her spouse and their life-long relationship as being an anchor for her.

> You know, I've known him since I was a child. Him and I both, um, growing up, helped each other, with his issues at home, my issues at home, um, and we've been friends, we were friends before we were ever married…so we've been married 32 years. And he's, he's, he's my rock.

She described him knowing her so well that when her pain is flaring, he will check in based on her mood shift: "And then of course he knows something's up. And then, you know, I'm short, not, not being very nice sometimes, um, and he knows it's obviously, it's because, 'What's hurting?'" Shannon described having understanding friends, a supportive supervisor, and a very close relationship with her doctor. In addition, she shared the importance of parental nurturing when she was a child.

> It was always like me waking up my poor mother. Like it would be so bad that I couldn't walk and I would like, do the army crawl to her room, and I'd go to her side of the bed 'cuz she, you know, if my dad woke up first, then he would be the one to do it, and that's, you know, not your mom.

Appreciation. A minor but notable theme in managing pain was one of feeling appreciative of the little things and keeping pain in perspective. Julia shared the experience of a

no pain day: “The pain is gone, and you’re just like, ‘Ahh, it feels so good to breathe!’ You appreciate it more, that’s for sure!” Similarly, she is appreciative of events like sleeping that most people take for granted: “I don’t sleep very often. So when I do, it’s like, “Yay!” Sarah reminds herself of how far she has come since first developing chronic pain to maintain her perspective. “And you know, even with my history on how bad it was, I’ve come a long way.” She also reflected: “I knew how bad it was and I know how good it is.” Her hospital work provides her with another means of keeping perspective: “And, you know, work does bring me back to reality, thank God for that. I, I, I think that helps. I think that helps me in a mental way. I’m much better off.”

Validation. Though all the participants shared stories of having their pain experience invalidated by others, one shared the importance to her of receiving validation. For Shannon, having her pain validated by her doctors and other care providers, even if they couldn’t put a name to it, was important in legitimizing her experience and limitations, and was a strong theme in her narrative. “I went to this great eye doctor and she listened to absolutely every complaint I had…she listened and understood that I was concerned and she acted concerned about it.” She contrasted her experiences of the first neurologist she saw with the second, very affirming appointment: “They were very thorough—they’re a teaching hospital. I was at the neurologist for like two hours as opposed to the 10 minutes. They listened to concern, they went through everything.” She felt included in her care and treated with respect:

> The rheumatologists were like, initially, the one that I got initially and saw the first few times, were really, um, hopeful and validating and they were like “You know what? Like, we’re really sorry that it’s taken, that you’ve been on this journey back and forth to this many doctors and that you’ve had some experiences of people kind of blowing this off.

> There is, there is something here, like it's out, obvious in your bloodwork and it's obvious in, um, your symptoms. Um, it, you know, it can take a really long time." And um, they really were just like, it was really great.

She reflected:

> It was just kind of like this pattern that we hadn't put together, and like, "This is all making sense," and they were telling me like, "Of course, this makes sense, of course you're feeling this pain, this is what your whatever levels are," and, um, so that was really validating and kind of hopeful.

Forgiveness/Self-forgiveness. Three of the participants had not given much thought to forgiveness, especially in association with their pain, prior to being recruited for this study. The three primary themes in this superordinate theme were *conceptualizations of self-forgiveness*, in which they shared their thoughts regarding what constitutes self-forgiveness; *the process of forgiveness/self-forgiveness,* which explores the process and the comparative difficulty of self versus other forgiveness and the process of "letting go" of grudges, anger, and in granting forgiveness to others or to oneself; and *personal growth and perspective change* and the way these are seen as inherent to forgiveness. Self-forgiveness was described as by far the most difficult process by all the participants.

Conceptualizations of self-forgiveness. The participants had a variety of conceptualizations of what constituted self-forgiveness, with commonalities including the need for self-reflection, time, a shift in perspective, and personal growth. Only one of the four participants identified with a mainstream religion, though she was nonpracticing and did not seem to draw on that tradition to ground her definition of self-forgiveness. The only participant who referenced a religious tradition drew on a non-mainstream one, Sufism.

According to Julia, self-forgiveness requires a recognition that that we all make mistakes and need to let those mistakes go:

> I think it's realizing either that we make mistakes, or some things are just not in our ability to change, um, that we need to be almost, not okay with it, but realize that we need to forgive things that we can't change I guess. And then things that maybe we've done in our past that we just need to forgive ourselves, yeah.

She noted that forgiveness was a deeper process than letting something go, and requires self-reflection:

> Forgiveness is hard. I feel like it's almost more of a feeling than an actual, um, action to do. With letting go, I feel like it's not on the same line of forgiving because you just, you're just moving on when you're letting go. And with forgiving, I feel like it's definitely more deep and more, you almost have to meditate on yourself for that.

Michelle stated "The notion of self-forgiveness, it, that's been something that's really difficult for me …I would like to be able to feel that. Um, and it seems like an ideal." She went on to share her beliefs from Mystic Sufism to describe self-forgiveness:

> In Sufism, they talk about, um, there's, your Rahmah and your Rahim, and they're both kinds of mercy or compassion, but the Rahmah is the kind of mercy that is bestowed, uh, just by virtue of having a beating heart and breathing. You could be a mass murderer, serial killer, you know, whatever, and, and, and you still have the forgiveness of the Unity or the Deity, you know, whatever you want to think of it as, of Allah. And the Rahim is more about, um, the kind of forgiveness that comes with someone that's recognized "I've done something wrong," you know, "Please don't remember me this way. I don't want to be known for this. I want to be a better person." And I think

> self-forgiveness is a lot like the Rahmah. It's just an essential truth that comes from the core that, no matter what…you deserve love.

From Shannon's perspective, self-forgiveness is about treating oneself with compassion:

> It's allowing yourself to feel sorry for yourself a little bit, allowing yourself to feel, like, um, yeah, like "That sucks," and, you, not getting stuck in that, but, and along with understanding, so I guess, um, I guess when I was trying to think about, like, what this would be [the interview], I guess I was thinking of like, I would word it more as compassion for myself.

The process of forgiveness/self-forgiveness. As noted above, all the participants found it more difficult to forgive themselves than it was to forgive someone else. The process took time, sometimes years, and a degree of self-reflection that could be difficult, and even then there could be doubt as to whether or not they had "really" forgiven themselves. One participant was unable to recall or even imagine a scenario in which she could offer herself forgiveness, though she could do this for others. Participants also raised the question as to whether they were deserving of self-forgiveness.

The difficulty of self-forgiveness. Self-forgiveness was specifically an area all the participants struggled with. According to Julia, "I haven't been able to forgive myself because I feel like it's still holding onto me, so I can't move on." She also noted, in thinking about the self-reflection she believes is needed for self-forgiveness:

> I've never been able to really, fully do that. I think it's because when I start doing it, maybe I think about it more, and that affects me, so I try to just let it go…So forgiveness is, I think is hard. Hard to be able to forgive and find a way of being okay with forgiving yourself, I think. Yeah, it's hard.

Michelle contrasted the standards she holds herself to as opposed to what she holds others to as impeding her ability to self-forgive:

> I think there are times when I've tried to convince myself that I could forgive myself, but have I truly done so? I don't know that I really have. I, I think I have a pretty, um, hard, or high-level expectations myself, um, and um, and I think I'm much more apt to forgive someone else than myself.

As a case in point, she shares "I feel as though I have forgiven the person who perpetrated abuse, but I don't feel like I've forgiven myself for that experience." Shannon also shared the difficulty she experienced in coming to terms with a regrettable event in her life, taking years to get to a point of self-forgiveness:

> I held on for years to, like, um, be-being really upset with myself for being a person who rejected him. And, um, I think it took a couple years to be able to understand, like, well, I was young, um, I was not ready, I did not intentionally hurt him, I was doing, you, you know, I, I, I feel like it's a regret that I have, which is different, but I, like, also I feel like I forgive myself at this point for doing what, um, I needed to do at the time.

Sarah found it difficult even to conceptualize the idea of self-forgiveness. When asked if she could think of an instance in which she had been able to forgive herself for something, she replied, "Nope! Forgave myself for something. Something that I did? Did I forgive myself for something? That's cute. Forgive myself for something. [long pause] No. No. I, no, nothing comes to mind."

Not deserving forgiveness/self-forgiveness. Sarah shared having feelings of unworthiness, which translated into not even thinking to grant herself forgiveness:

> I just take it on a lot, I take it all in and I, I, I don't release it I guess, I don't forget. Why

would I forgive myself? I'm not a good, oh gosh, I shouldn't say, 'I'm not a good person. Michelle shared the experience of not being deserving of forgiveness even though she does not feel negatively judged by the divine:

> And then sort of putting me in front of the higher self, or the, you know, divine, or whatever—something bigger than yourself. And I could feel in that experience that there is no blame coming from that. But, um, I didn't believe it. I didn't believe that I was deserving of that.

Letting go. Letting go was at least part of how each participant described resolving anger or a grudge. Some thought of it as part of the forgiveness process as well, though not sufficient by itself. According to Julia,

> I'll hold it [a grudge] for a while, but then I realize that it's, it's affecting me physically and mentally, and then I forget about it. So it's once I realize that, it, then it goes away, but it takes time sometimes.

For her, the cue to let go was becoming aware of the toll holding onto a grudge was taking on her physically and emotionally. She noted that holding onto the negative emotions impacts how her body feels and the subsequent relief she feels when she can let it go:

> I'm very achy, yeah, very tired, um, like my whole body just feels more heavy than it would normally…Once I let it go, I remember just being, kind of content with myself…I didn't feel so anxious. I didn't feel tired or achy.

Michelle and Shannon both emphasized the need for some sort of shift in perspective or understanding before it was possible for them to let go of angry feelings or a grudge. Michelle shared:

> I think times when a grudge has been resolved, it's been with an increase of

> understanding. So either I felt like the other person could understand my point of view and acknowledge it, um, or I've been able to understand them better, or get some clarity around what it was that motivated the thing.

Her thoughts regarding anger were similar:

> Again, I, I think it comes with a, a shift in perspective. And sometimes that comes from talking through it with someone else and having that outside perspective say, you know, to kind of like pull you up out of the situation and make you see it from a little bit of a distance and just say "Look, this, this was reasonable," or, um, or "Yeah, it was a mistake." And that's part of what it takes to be a human, is, we mess up and we correct, and move on. So again, it has to do with a shift in perspective.

Shannon stated,

> You can't change the other people, you can only change yourself, and how you look at things, so um, and you know, allowing myself to, you know, that whole understanding someone isn't necessarily forgiving or condoning what they do, but also, like being able to let it go.

Sarah pointed to the need for time to be able to move on or let go of an interpersonal injury.

> Um, maybe they do something, some time has gone by and, they've done some, you know, thing, not necessarily, you know, well nice or whatever, or creeping back in slowly, it's like everything's okay now, I got over that, I can move on, um, but uh, yeah. Or deal with that and, and let it go. Or, you know, at what, at some point, just let it go.

For Michelle however, the passing of time only dulled the pain, but was not sufficient to release the grudge or anger. "The passing of time I think makes something feel less acute, but it's still present, still buried. So, if time heals all wounds—not, I, I don't believe that—but, um, but I

think it makes them less noticeable."

Personal growth and perspective change. Similar to the process described for the resolution of anger or grudges, forgiveness was also described as requiring a change either in perspective about the incident, or the ability to at least understand the perspective, whether regarding another person or oneself. In this sense, forgiveness begins with acceptance, a coming to terms with that which you cannot change before moving towards the letting go of forgiveness. Self-forgiveness in particular was associated with personal growth. For Michelle, forgiveness starts with recognition of one's own wrongdoing and a desire to change which can lead to personal growth: "I think it has to do with that, um, acknowledgement, on the part of the person who, you know, whether self or someone else, to say 'I recognize my error and I, I'm working to change that.'" She noted, "There has to be some kind of shift in understanding, or a shift in the storytelling about what was going on in that event."

After years of reflection, Shannon could accept herself as imperfect, and someone who sometimes makes mistakes, which allowed her to then forgive herself:

> I feel like I've been able to say, like, "I like who I've become, as a person." Um, I like how I am with people, and maybe that kind of helped me in my forgiveness of that situation. That, like, "No, I am a good person, I am good to the people in my life, and I'm good to people who aren't in my," you know, like I'm a good person and I do bad, I do things that aren't always good. And that's, makes me a little bit fun, makes me a little bit normal, like, um, I'm not a saint. Um, and so I, I think that's a really, that's been a nice place to be in.

Shannon described the personal growth aspect of self-forgiveness as a process of maturation:

> As I am older and I can take more responsibility for my role in things, then it's also, well,

> for, forgiveness on both sides I guess. Um, yeah, um, we all do things that at some point hurt someone or, um, are hurtful unintentionally maybe, or we disappoint people, and, um, yeah, it's a lot easier to forgive other people or have compassion for other people, but, um, that may be a part of that, is also needing to do that for yourself too, to really, if you're really moving on, letting it go.

When asked what she would need to do to be able to forgive herself, Julia saw this process as one of life change which allows her to realize her own potential:

> By changing my life, in a way. I think that would be the best path to get to forgiving myself because I think the pain that I feel, of, of the anger of myself, that pain is so strong that it's stopping me from kind of living. So the way I think I would be able to forgive myself and move on from it, is if I actually moved on from it. So it's kind of holding onto me I guess in a way, if I think about it really hard…Because I'm letting it go and I'm becoming the person I've always wanted to become, I can forgive who I was.

Experience/Awareness of mind-body connections. This final overarching theme was interwoven throughout the interviews, as may be apparent in the quotes provided thus far. The three themes comprising the overarching theme were *mind*, in which the participants noticed how their cognitive and emotional experiences were reflected in physical responses; *body*, in which the participants shared their awareness of the ways pain and fatigue impacted their mood and sometimes their thoughts; and *personal impact of forgiving (self or other)*, in which the participants shared how they experienced the interaction of mind and body in the process of forgiving.

Mind. Most of the participants shared instances of noticing the interaction between cognitive and/or emotional experiences, and body reactions. Shannon noted that her mindfulness

practice has had the positive effect of helping her to manage her pain:

> I think mindfulness is really important to me, so, you know, whether through school, or like doing that in my practice with my clients and whatnot, and just in my own life, it's like, has helped me immensely in every area, and especially, like, with, with pain.

Michelle wondered if her thought processes themselves were partially to blame for her experience of chronic pain: "Maybe the way I thought about my body had, was a contributing factor in developing chronic pain, because I don't remember, you know, even since being really little, I don't have a memory of feeling good in my body." For Sarah, the idea that the mind and body are not separate was still new, and had only recently been introduced in therapy. When asked if developing chronic pain had changed the way she thought of herself, she replied "Never thought of it, really. No. 'Cuz I've never put, I, I would never think that those two are related." She shared:

> I think just the idea that pain can actually be caused from physic[al], other physic[al], you know, I, I never thought it was connected from the head to the pain of my body. I just assumed it was, it was not caused from other issues in my life.

Since starting to attend to this connection in therapy, she reported that her pain had significantly improved:

> I do notice a difference, like I said, in the few months, I've seen her [her therapist] since November, and I, there definitely is a difference. Now the chronic things are starting to, get, are just age stuff, whatever. But, the back is better, um, the, you know, I mean, I don't know. Things are better.

And Julia noticed the same thing:

> My pains have been *much* better. Like they're, I still get them, like they're definitely still

> there. My arthritis has, has been so much better. I will get different days where my hands really hurt, but my knees are feeling better. Um, I think it's because I, I'm more positive on myself, and the positive on myself makes me want to just keep going. And with being, um, motivated in that, I, I, maybe I'm forgetting the pain? Or maybe it's just decreasing? I'm not sure. But it's definitely better.

Sarah, who struggles with the idea of self-forgiveness, expressed the impact of holding onto anger as corrosive: "And then of course it, you know, it just eats you up."

Body. The participants seemed to find it easier to notice the impact of the body on their mood, as well as the body's reactivity to stress and fatigue. Michelle shared her observations regarding pain and stress:

> I think the one that is most impressive to me is the low back, the S5, I mean L5-S1, right between the lumbar and the sacrum is a place that, um, tends to communicate stress. When I'm stressed, or when something is happening—it could be physical, it could be emotional—that's the place that tends to react strongly.

Shannon shared her experience of beginning to be able to predict some of her pain: "I know if I'm, like, overtired and overworked and stressed, that it's, the pain is going to be worse." She has noticed that this experience is bidirectional: "There are times when I guess, when my body's felt good, where I felt just better, like, I guess my mood has been better, and I've been like, 'Oh, my body feels good.'"

For Julia, learning about the connection between trauma and chronic pain was eye opening:

> I thought it was interesting that "Angie" [her therapist] was saying that um, that was very common for people who have gone through trauma to have a lot of physical pain. And I

> looked back at my life and was like, "I've had a lot of it, wow!"

In reflecting on mind-body connections, she was struck by the body's ability to experience emotion at a somatic level: "It's strange how your body, like, feels things. Like you don't really need to think about it and it definitely feels things."

Personal impact of forgiving (self or other). This final section depicts the physical and emotional effects participants experienced when granting forgiveness to themselves or another. Michelle said:

> I can think of one thing, which was just feeling, uh, like lighter. Feeling, um, like I could breathe a little bit deeper. Feeling like, that there was a lot less in my head, you know, like I could just like take a deep breath and, and things were better. Yeah. But I don't, I don't know that that is a lessening of pain specifically.

Shannon shared: "I think it's, you know, an emotional weight that is…gone…I don't wanna say totally gone. I think there's probably…I think if I ever wanted to put myself back in a moment, I, I could." Julia expressed a similar experience of being able to put herself back into a negative emotional state through memory, but having the power of the experience lessen over time:

> But then if I, I let it go [a grudge] and I'd feel really strong about it, but then as, it's like, a few days later, or a week later, and it would come up, I felt it again for a bit. And then it would go away and it gradually just became bigger gaps.

When Julia was asked whether she felt differently because of forgiving, she responded:

> Yeah! Yeah, I did. It took time, but I gradually realized that, um, I just felt better now that I realized I made a mistake of the way I handled it, but I know now not to handle it that way. And that made me feel better. I feel like I grew from it.

She added,

> I'm excited, I think, and I'm, even my roommate, my best friend, sees a difference in my physical pain…and she kind of looked at me and she goes, "I'm liking where this I going." And I'm like, "Me too! Me too!"

At the end of the interview, participants were asked to imagine forgiving a painful body part and then to share what they experienced. All noticed some sort of shift, and though not necessarily pain relief, there was some sense of greater comfort. For Michelle, the change she noticed was one of a change in energy in the affected area: "I notice a different energy level in that place. Um, I, I notice sort of an excitement or activation, um. But I don't know that I notice less pain." Julia noticed "In the moment [imagining forgiving a painful body part], yeah, a little. More relaxed, but not, not really. In a way, just a little. If I really think about it and imagine it, yeah. Um, but it's still there. Yeah." Interestingly however, she also struggled with the idea of forgiving her painful body: "I think if I really imagined it, maybe, but I think that, that's hard, because there's so much of a mixed feeling, I guess, forgiving that part, I guess."

Sarah, who had previously shared never forgiving herself for anything, had the dramatic experience of imagining offering her most intensively painful body part forgiveness and suddenly having the pain drop to a very low level of intensity:

> Well actually, now that you say that, I don't know if it's just the position of my foot, but right now it feels okay. It doesn't feel very bad right now. I don't believe that! My neck still bothers me, my shoulder. Right, right just, right now, it's not bad. It's definitely maybe a 1 or 2.

Her excitement continued to grow after her initial realization that her pain had significantly remitted:

> That's weird, okay this is really weird [laughing]. This is <u>really</u> weird…Yeah, right now

> it feels pretty good…Wow! Wow! Five pounds lighter. So, you're saying I forgave myself…Wow, this feels really good…That's amazing! Right now that feels, that's amazing. Okay, where's the cameras now?...Oh my gosh! It's like floating in the air.

Survey Data

In conjunction with the interviews, each participant completed the Differentiated Process Scale of Self-Forgiveness (DPSSF) and the West Haven-Yale Multidimensional Pain Inventory, Part A (WHYMPI) twice per week for three weeks to capture self-forgiveness processes and pain interactions over time. Data sets were obtained for all four participants, with only one survey of the 48 completed being rendered invalid due to the participant missing a response page. As this study was primarily qualitative by design, there were not enough participants to perform statistical analyses on the surveys. Common patterns in the survey responses were not in fact evident across participants as will be noted in the graphs. The intent of the surveys, however, was to supplement the interviews with visually descriptive data and the graphs are presented strictly for that purpose. The survey data cannot be interpreted or applied beyond the individual who completed it.

Self-forgiveness. The DPSSF has 20 items and yields three subscales: *genuine self-forgiveness*, *pseudo self-forgiveness*, and *self-punitiveness*. As defined by the DPSSF, genuine self-forgiveness is the internal state that occurs when an individual takes responsibility for his or her hurtful actions or offense and works through the subsequent guilt, while pseudo self-forgiveness and self-punitiveness are measures of incomplete processing of an offense. In pseudo self-forgiveness, the individual does not accept responsibility for his or her offense and in self-punitiveness, the individual is unable to work through the guilt and self-forgive. All three are displayed together to visually present the evolution of the self-forgiveness subscales over time in

relation to each other.

Figures 1, 2, 3 and 4 show the movement over time of genuine self-forgiveness, pseudo self-forgiveness, and self-punitiveness for Michelle, Julia, Sarah and Shannon respectively. Both Michelle's (Fig. 1) and Julia's (Fig. 2) early scores featured self-punitiveness as the prominent characteristic of their reported states of self-forgiveness. Self-punitiveness for both women then rapidly decreased and remained at low rates for the remainder of the survey period.

In Michelle's results (Fig. 1), pseudo self-forgiveness increased as both self-punitiveness and genuine self-forgiveness decreased. Pseudo self-forgiveness then decreased as genuine self-forgiveness increased and self-punitiveness remained level. For Michelle, most of the movement among the three types of self-forgiveness processes occurred during the first half of the survey time period, and remained relatively stable thereafter, though interestingly, pseudo self-forgiveness showed an increase again in the last data point.

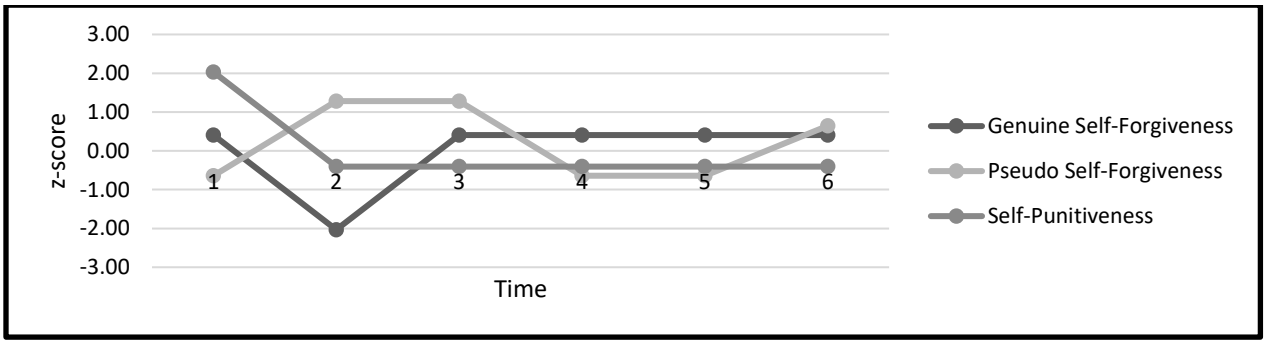

Figure 1. Changes in Self-Forgiveness over Time (Michelle)

Julia's data (Fig. 2) for self-punitiveness also followed the pattern of starting high, decreasing, and then leveling at low rates. As self-punitiveness decreased, genuine self-forgiveness increased in the first half of the data set and then dropped over the second half of the data to the lowest position of the three processes. Pseudo self-forgiveness was relatively stable, though it showed a large decrease on the second data point as genuine self-forgiveness reached its high point. Overall, all three processes for Julia showed a downward trend over time,

though similar to Michelle's data, most of the movement among the processes took place over

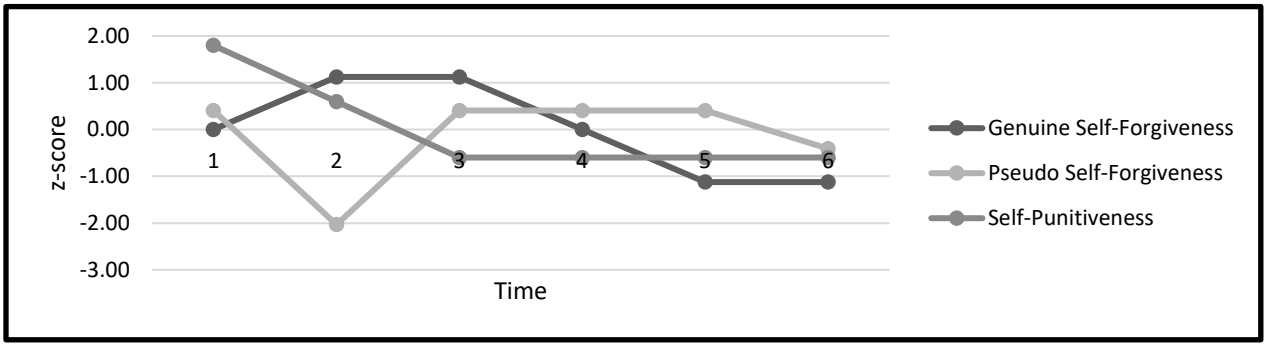

Figure 2. Changes in Self-Forgiveness over Time (Julia)

Sarah's data (Fig. 3) was notable for self-punitiveness and genuine self-forgiveness being closely matched over time. The relationship between the two appears to be inverse and stable,

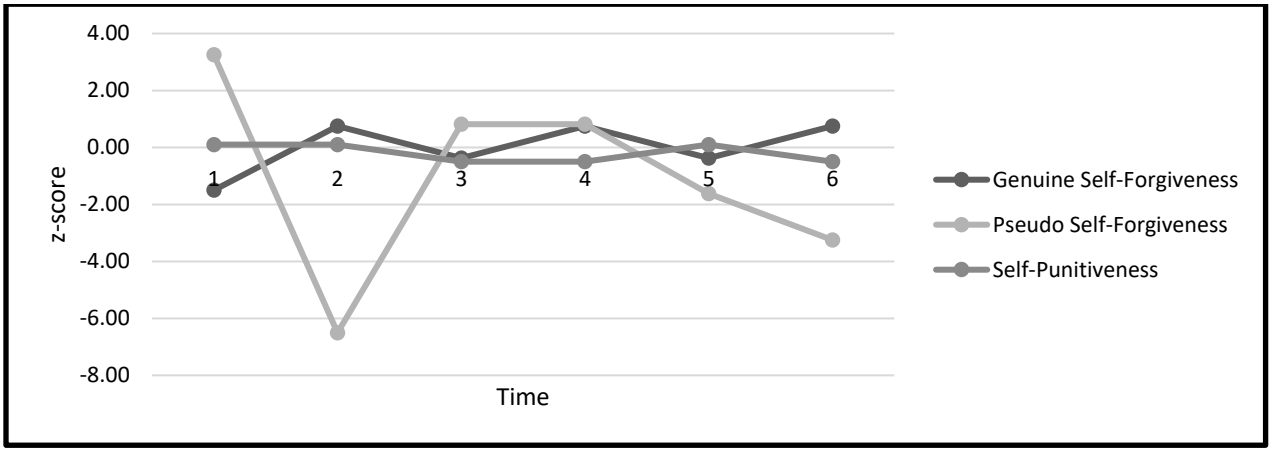

Figure 3. Changes in Self-Forgiveness over Time (Sarah)

and the position changes are quite small throughout the sample. Pseudo self-forgiveness showed considerably more variation and inversely co-occurred with self-punitiveness and genuine self-forgiveness when they are viewed as a single unit.

Shannon's data (Fig. 4) was striking in the uniformity and progression of scores over time. All three processes started with high endorsements. Pseudo self-forgiveness and self-punitiveness scores were identical across the first five data points, showing no divergence until the last point. After the initial decrease between the first two measurements, pseudo

self-forgiveness and self-punitiveness remain low and stable. Genuine self-forgiveness started high and showed a stepwise pattern of decrease over the measurement period.

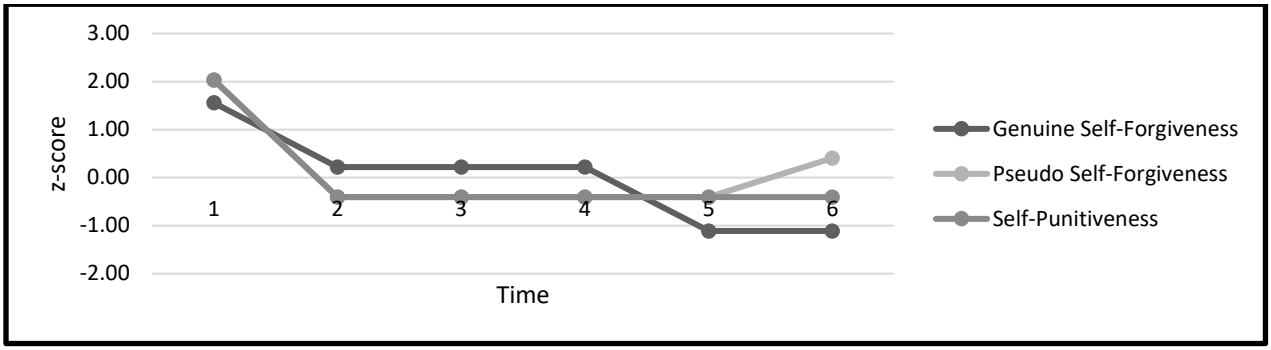

Figure 4. Changes in Self-Forgiveness over Time (Shannon)

Pain. The five subscales of the WHYMPI, Part A, are also derived from 20 items and are labeled (a) *affective distress*, (b) *pain severity*, (c) *interference*, (d) *support, and* (e) *life control*. The affective distress subscale measures negative mood associated with chronic pain while the pain severity subscale reflects the degree to which pain has an impact on the respondent's life. The interference subscale measures the degree to which the respondent perceives pain to interfere with life activities and the support subscale measures the respondent's perception of how well they are supported by significant others. Finally, the life control subscale of the WHYMPI measures the respondent's sense of control over his or her life. The five subscales are presented together in Figures 5, 6, 7, and 8 to show how they interact over time for each of the participants.

Each of these response sets had unique characteristics. Julia's responses (Fig. 5) demonstrated a steady decrease over time in affective distress, pain severity, and pain interference, but also a decrease in her support subscale. Against these four declining subscales, she shows an increasing trend in the life control subscale.

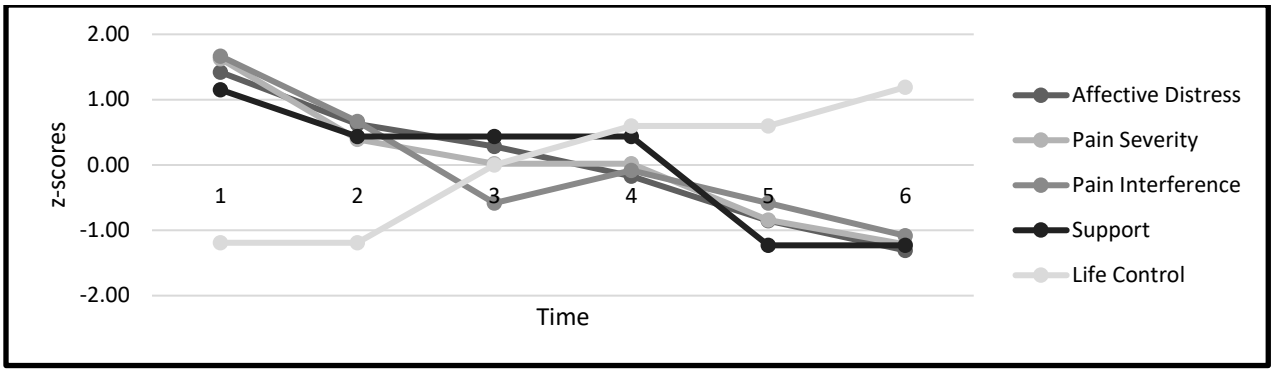

Figure 5. Changes in WHYMPI Part A Subscales over Time (Julia)

Michelle's (Fig. 6), Sarah's (Fig. 7), and Shannon's responses (Fig. 8) each showed considerable variability amongst the subscales over the course of the study.

Michelle (Fig. 6) only has five measurement points instead of six because her final WHYMPI survey was incomplete and therefore invalid. For her, pain severity and pain interference were closely matched except for the first and last points where they were divergent. Interestingly, affective distress appears to decouple from pain severity and pain interference after

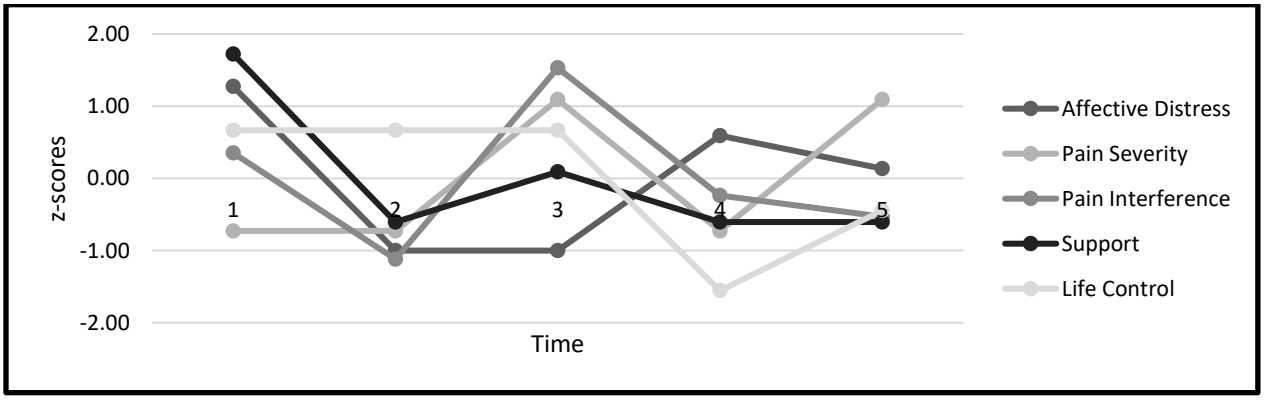

Figure 6. Changes in WHYMPI Part A Subscales over Time (Michelle)

the second data point and from there on corresponded largely inversely. The support subscale seems to follow the same trends as the pain severity and pain interference subscales, but with more moderate directional changes after the initial large drop. The life control subscales for Michelle appear to be independent of the other four subscales, demonstrating variability that does not seem consistently associated with the others.

Sarah's scores show pain severity, pain interference, and life control subscales moving together across the first four data points, after which the life control subscale diverges and corresponds inversely over the last two points. Unexpectedly, affective distress in Sarah's responses is inversely associated with pain severity and pain interference, similar to the latter part of Michelle's data. Sarah's support subscale appears to move largely independently of the other four subscales and is relatively stable.

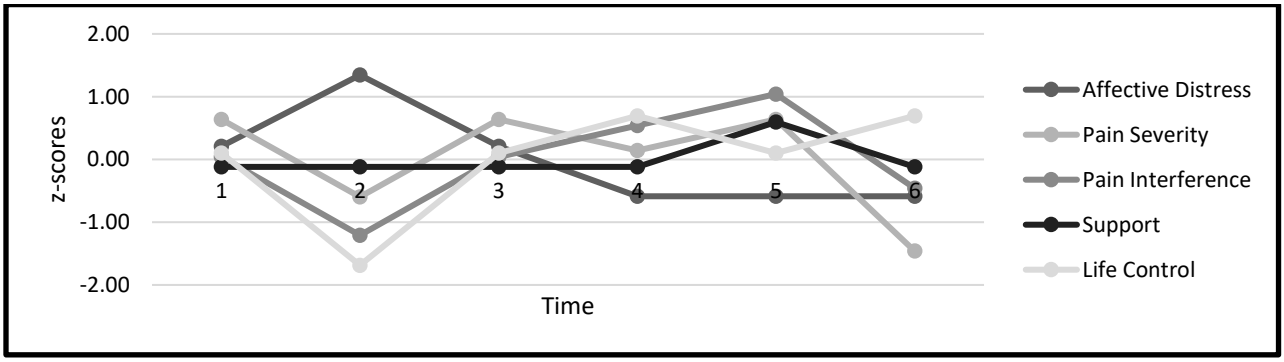

Figure 7. Changes in WHYMPI Part A Subscales over Time (Sarah)

Though Shannon's data (Fig. 8) demonstrates substantial variability, her affective distress, pain severity, pain interference, and support subscales appear to trend together relatively

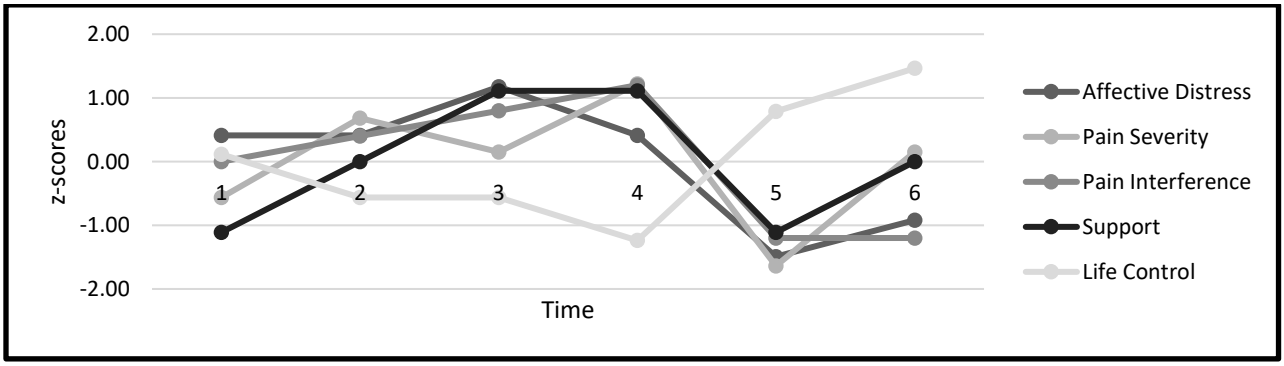

Figure 8. Changes in WHYMPI Part A Subscales over Time (Shannon)

closely over time, while life control is generally inversely related (Fig. 8). This is quite similar to Julia's data (Fig. 5) in terms of how the subscales relate to each other.

In the remaining graphic displays, the data is organized to individually represent each of the five WHYMPI subscales mapped onto the three forgiveness subscales of the DPSSF.

This is done to observe in what way each might interact with the self-forgiveness subscales.

Affective distress. The affective distress subscale of the WHYMPI is derived from 3 items and measures negative mood associated with chronic pain. As can be seen in Michelle's data (Fig. 9), affective distress was quite variable across the measurement period. When examined with respect to the self-forgiveness processes of the DPSSF, Michelle's negative mood co-occurred with both genuine self-forgiveness and self-punitiveness, though it seemed most closely associated with genuine self-forgiveness. This is interesting as it seems to indicate that her affective distress lessened as her genuine self-forgiveness lessened, and increased as her genuine self-forgiveness increased. As pseudo self-forgiveness changed inversely with the other subscales, this seems to indicate that her mood was better when her pseudo self-forgiveness scores were higher, and it worsened as her pseudo self-forgiveness scores dropped.

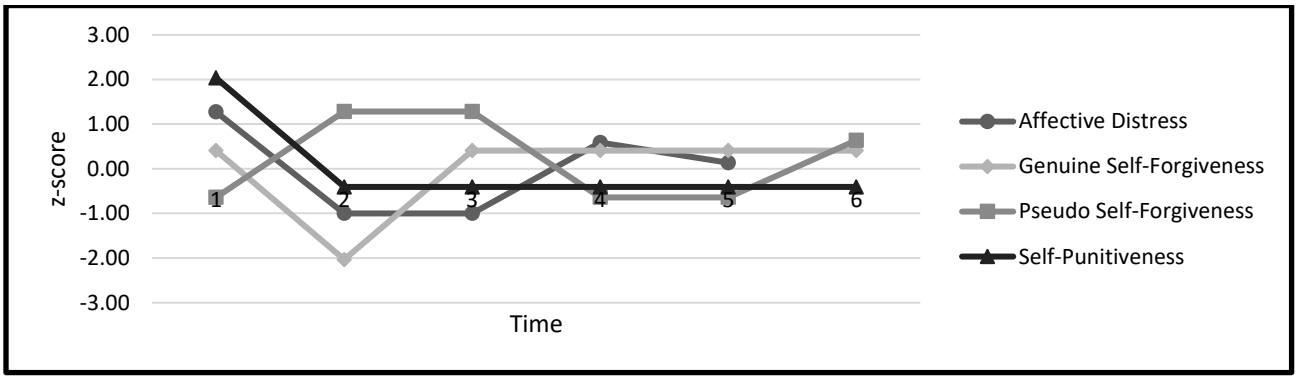

Figure 9. Affective Distress and Self-Forgiveness Subscales over Time (Michelle).

For Julia (Fig. 10), affective distress starts relatively high, and seems to be paired with high self-punitiveness scores. As her self-punitiveness scores decrease over the first half of the data, so does her report of affective distress. However, affective distress continues to decrease after self- punitiveness levels off. Genuine self-forgiveness increases over the first half of the study and appears to be inversely associated with affective distress. However, genuine self-forgiveness then sharply decreases and remains low for the remainder of the data-collection

period. Like Michelle, it appears that Julia's mood improves despite decreasing genuine self-forgiveness scores. Also like Michelle, Julia's data seems to indicate improved mood when pseudo-self-forgiveness is dominant.

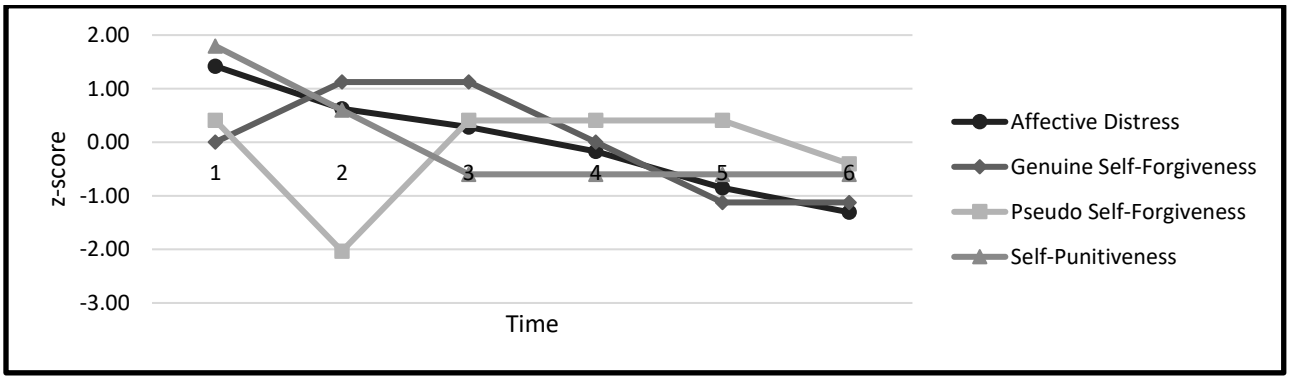

Figure 10. Affective Distress and Self-Forgiveness Subscales over Time (Julia).

Sarah's data (Fig. 11) shows her affective distress at relatively low levels throughout the study period. Her mood appears to co-occur with genuine self-forgiveness and self-punitiveness though, like genuine self-forgiveness and self-punitiveness, the shifts in mood are minor. Pseudo self-forgiveness demonstrated considerable changeability and overall seemed to vary inversely with affective distress, genuine self-forgiveness, and self-punitiveness.

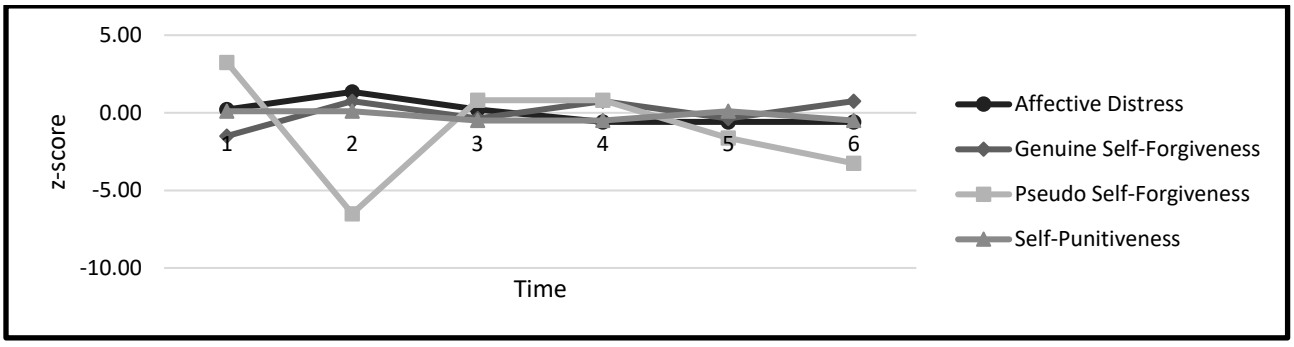

Figure 11. Affective Distress and Self-Forgiveness Subscales over Time (Sarah).

In Shannon's data (Fig. 12), affective distress appeared most closely associated with genuine self-forgiveness, and seems to indicate that as her genuine self-forgiveness scores decreased, so did her affective distress, an unexpected finding.

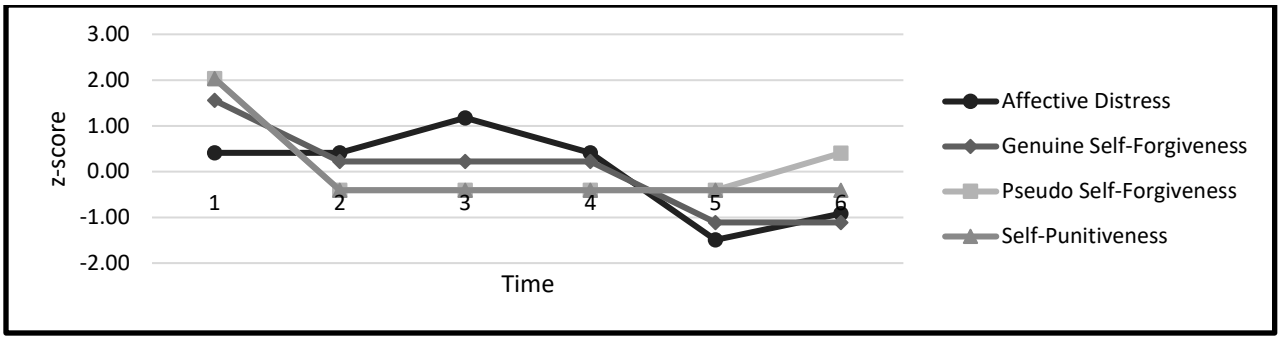

Figure 12. Affective Distress and Self-Forgiveness Subscales over Time (Shannon).

Pain severity. The pain severity subscale of the WHYMPI is also derived from 3 items and reflects the degree to which pain has an impact on the respondent's life. Michelle's pain (Fig. 13) varied across the study period and did not appear to correspond to any of the self-forgiveness processes being measured.

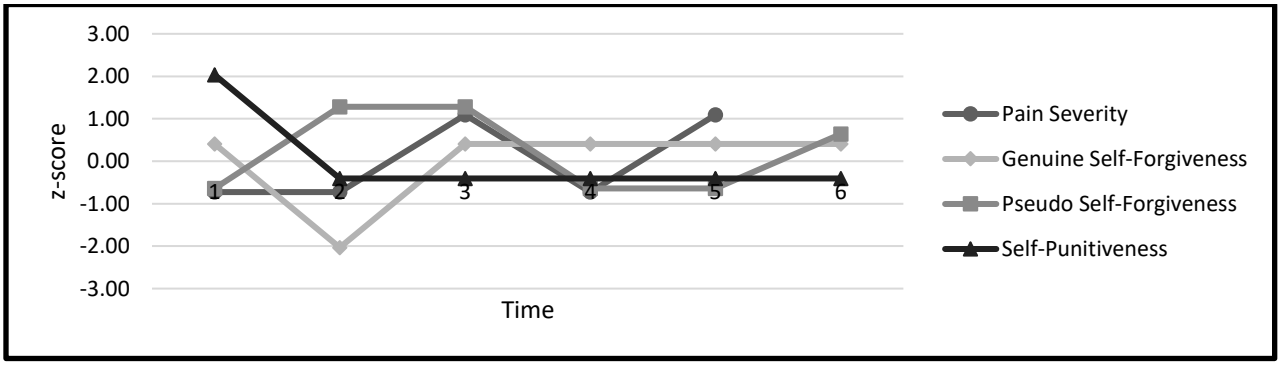

Figure 13. Pain Severity and Self-Forgiveness Subscales over Time (Michelle).

Julia (Fig. 14) showed a steady decline in pain severity across the study period, very closely resembling her data for affective distress (Fig. 10). It appears that her report of pain severity drops as self-punitiveness drops. It also appears that initially, her reporting of decreased pain lines up with increased genuine self-forgiveness scores, though this relationship only holds for the first half of the study. Pain severity and pseudo self-forgiveness do not appear to be closely associated for Julia.

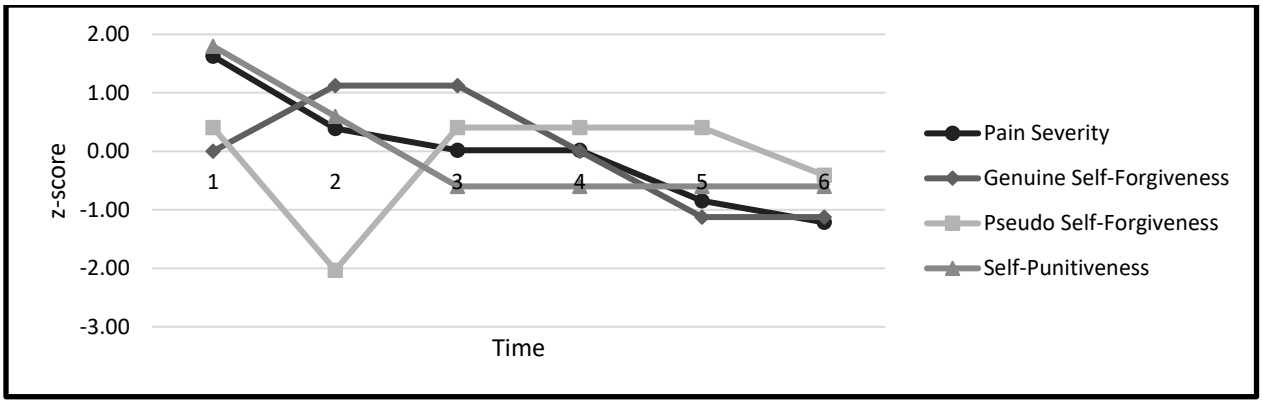

Figure 14. Pain Severity and Self-Forgiveness Subscales over Time (Julia).

Sarah (Fig. 15) reported her pain severity as being relatively steady across the study period. It appears to trend closely and inversely with genuine self-forgiveness and self-punitiveness. As previously noted, Sarah's reports of pseudo self-forgiveness were highly variable and appeared to directly associate with her pain severity reports, though the changes in pain severity were of a much smaller magnitude than the changes in pseudo self-forgiveness.

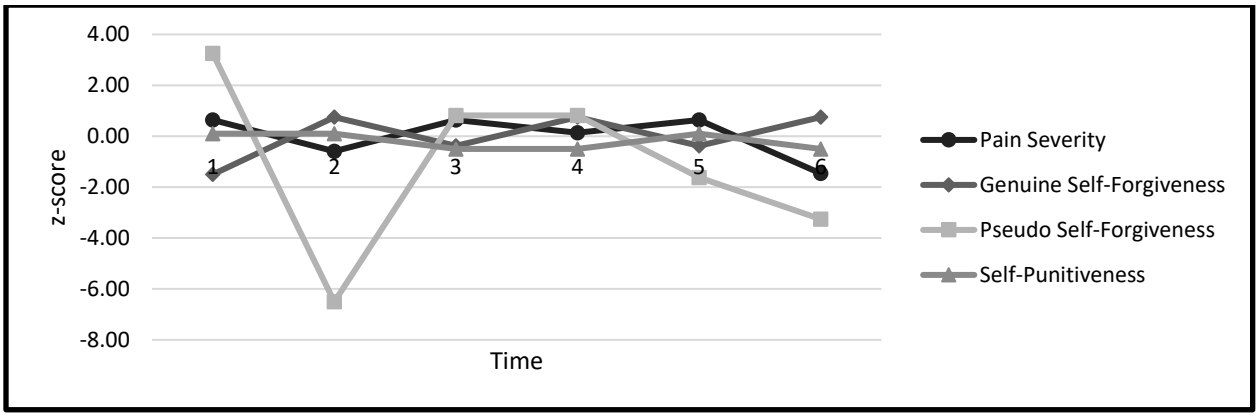

Figure 15. Pain Severity and Self-Forgiveness Subscales over Time (Sarah).

Shannon's report of pain severity (Fig. 16) was quite variable across the study period and appeared to be largely independent of the forgiveness subscales, though an initially inverse relationship can be seen, with pain severity rising as all three forgiveness subscales drop. This association is lost in the second half of the data as pain severity shifts to match the changes in the self-forgiveness subscales, particularly noticeable with the pseudo self-forgiveness subscale.

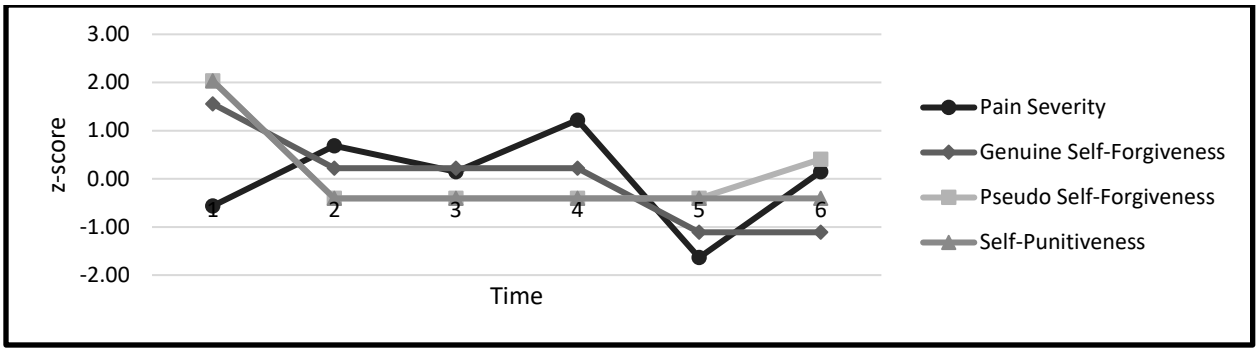

Figure 16. Pain Severity and Self-Forgiveness Subscales over Time (Shannon).

Pain interference. The interference subscale of the WHYMPI is derived from 9 items and measures the degree to which the respondent perceives pain to interfere with life activities. Similar to her reports of pain severity (Fig. 13), Michelle's perception of pain interference (Fig. 17) varied widely across the study period and does not appear to closely correspond to any of the self-forgiveness processes in their entirety. In the first half of the data, changes in reports of pain interference parallel genuine self-forgiveness, seemingly indicating that pain severity decreased and increased as genuine forgiveness decreased and increased. At the same time, the pseudo self-forgiveness scores for the first two data points are inverted in relation to the pain interference scores but then shift to a direct correspondence for the remaining three data points. There does not appear to be a meaningful visual relationship between pain interference and self-punitiveness for Michelle.

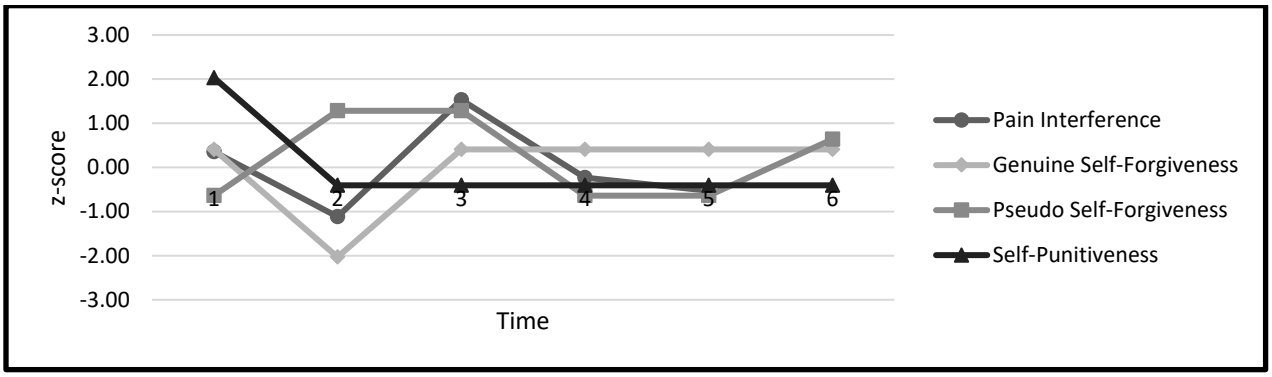

Figure 17. Pain Interference and Self-Forgiveness Subscales over Time (Michelle).

Julia's perception of pain interference (Fig. 18), was again most closely aligned with the process of self-punitiveness, indicating that for her, pain interference decreased as self-punitiveness decreased. Genuine self-forgiveness showed the inverse relationship, with lower pain interference as genuine self-forgiveness increased, though this relationship is lost in the last two data points. Any association between pain interference and pseudo self-forgiveness appeared weak at best.

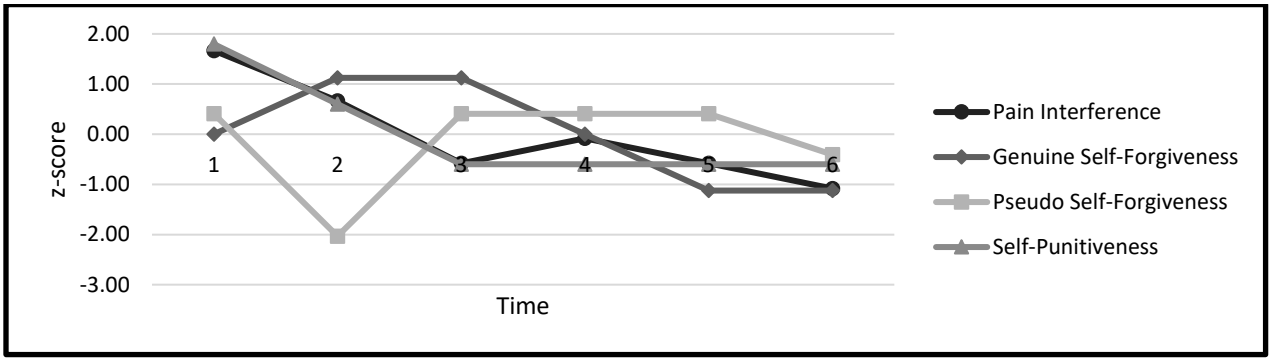

Figure 18. Pain Interference and Self-Forgiveness Subscales over Time (Julia).

Sarah's data (Fig. 19) for pain interference again showed low variability over time, with its trajectory most closely aligned that of self-punitiveness and genuine self-forgiveness. Close inspection again reveals a small inverse relationship between pain interference and the forgiveness processes of genuine self-forgiveness and self-punitiveness. Pseudo self-forgiveness and pain interference appear to vary more independently from each other.

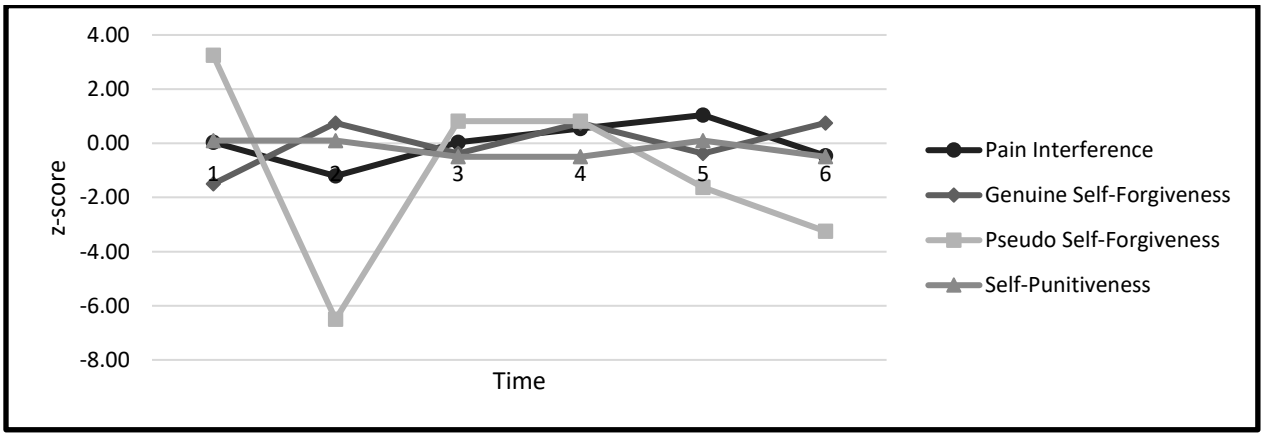

Figure 19. Pain Interference and Self-Forgiveness Subscales over Time (Sarah).

Pain interference scores rise steadily over the first four data points for Shannon (Fig. 20) while all three self-forgiveness measures decrease, suggesting that she experienced more interference with life activities when she was in a lower state of self-forgiveness. However, pain interference dropped sharply and matched genuine self-forgiveness when it was at its lowest point and as pseudo self-forgiveness showed small upward movement.

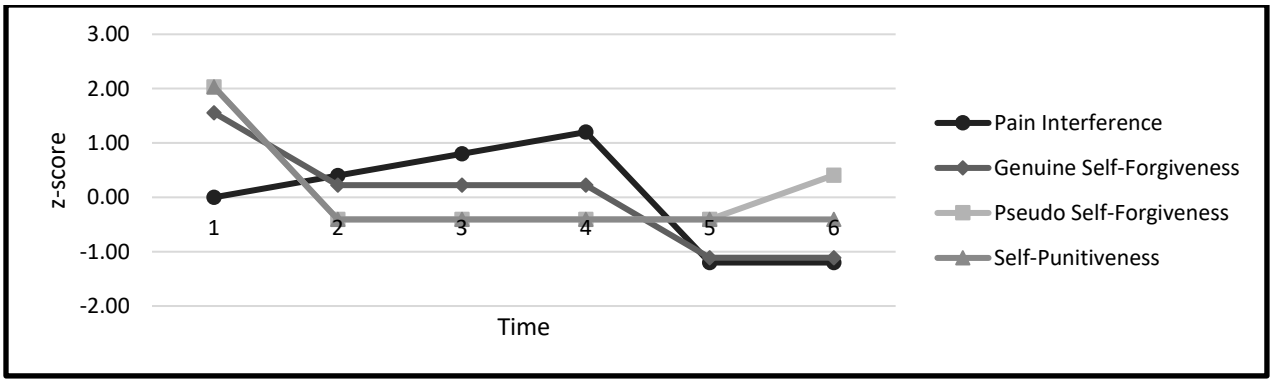

Figure 20. Pain Interference and Self-Forgiveness Subscales over Time (Shannon).

Support. The support subscale of the WHYMPI is derived from 3 items and measures the respondent's perception of how well he or she is supported by significant others. Michelle's perception of support (Fig. 21) declined rather sharply initially and then leveled off in a low,

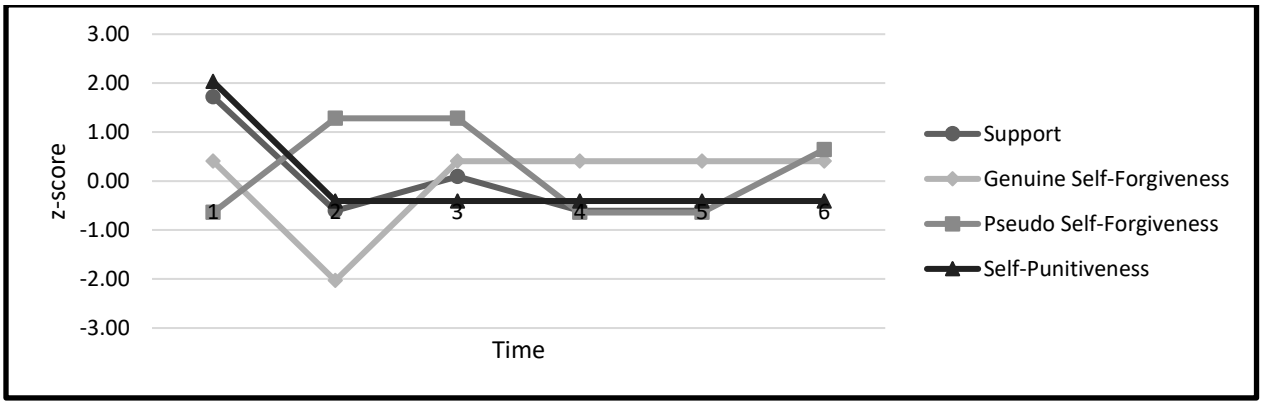

Figure 21. Support and Self-Forgiveness Subscales over Time (Michelle).

stable range. Interestingly, this appears to covary quite closely with self-punitiveness. This appears to indicate that as Michelle's self-punitiveness decreased, her perception of being supported by her significant other also decreased. There also appears to be a weaker direct

relationship between support and genuine self-forgiveness. Pseudo self-forgiveness was initially inversely associated with support, though this was lost in the second half of the data.

Julia's perception of support (Fig. 22) also started rather high and stable but declined dramatically at the end of the study period. While support did not appear to be strongly associated with any of the self-forgiveness processes, it appears to be most closely connected to genuine self-forgiveness. As genuine self-forgiveness trends downward, so too does Julia's rating of her perception of support.

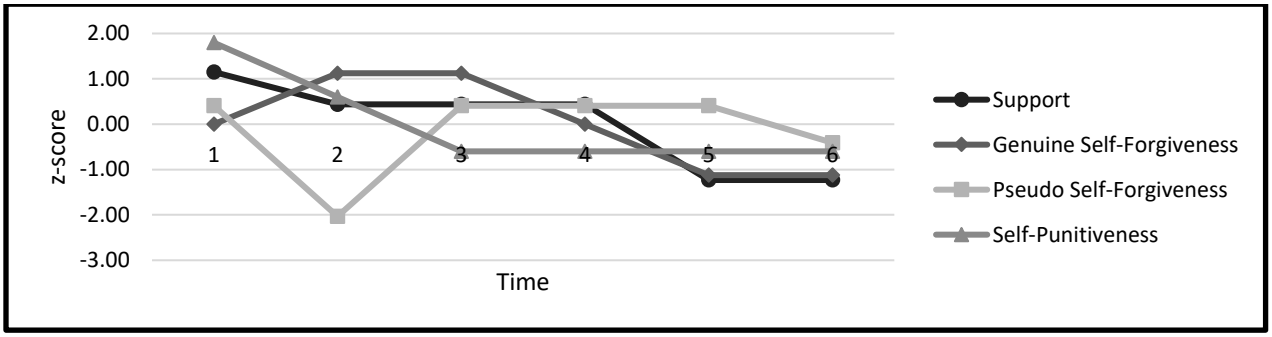

Figure 22. Support and Self-Forgiveness Subscales over Time (Julia).

In contrast to Michelle and Julia, Sarah's perception of support (Fig. 23) was stable throughout the study period, showing little variance across the three weeks of data collection. For Sarah, support and self-punitiveness had nearly identical trajectories, though genuine self-forgiveness was also closely aligned. Pseudo self-forgiveness did not appear to be associated with perception of support for Sarah.

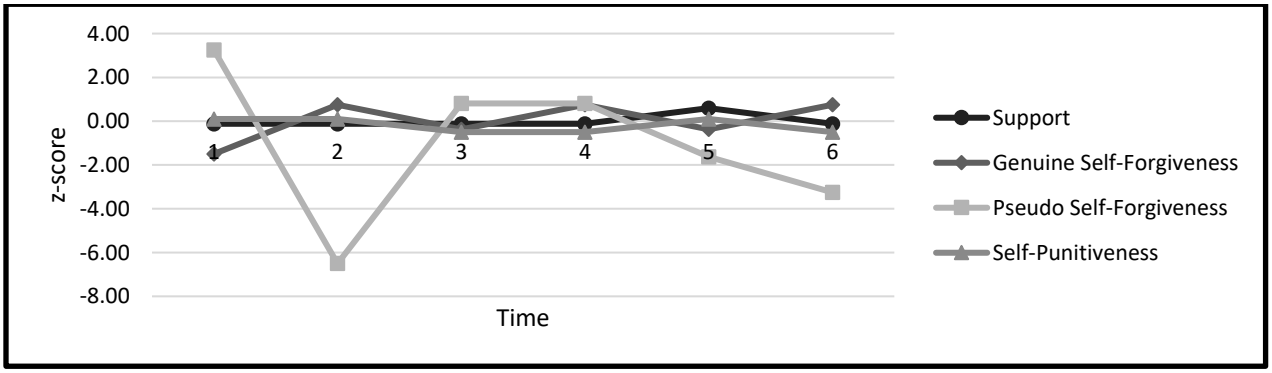

Figure 23. Support and Self-Forgiveness Subscales over Time (Sarah).

In Shannon's data (Fig. 24), perception of support did not appear to be meaningfully associated with any one of the self-forgiveness scales. Over the first four data points, her perception of support appears to increase at the same time all self-forgiveness processes are decreasing. It then suddenly drops and from there onward shows indications of aligning directly with pseudo self-forgiveness.

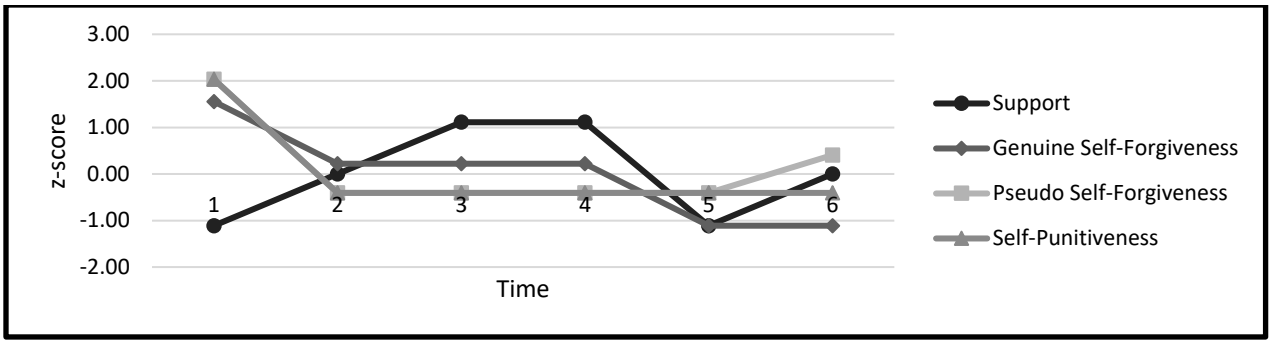

Figure 24. Support and Self-Forgiveness Subscales over Time (Shannon).

Life control. The life control subscale of the WHYMPI is derived from 2 items and measures the respondent's sense of control over his or her life. This subscale is weak due to the low number of items it is comprised of, but is presented here because the topic was apparent in each of the interviews, especially in the context of injustice/unfairness inherent to having chronic pain.

Michelle's sense of control over her life (Fig. 25) was steady during the first half of the study, and then suddenly dropped. It appears to most closely map onto pseudo self-forgiveness.

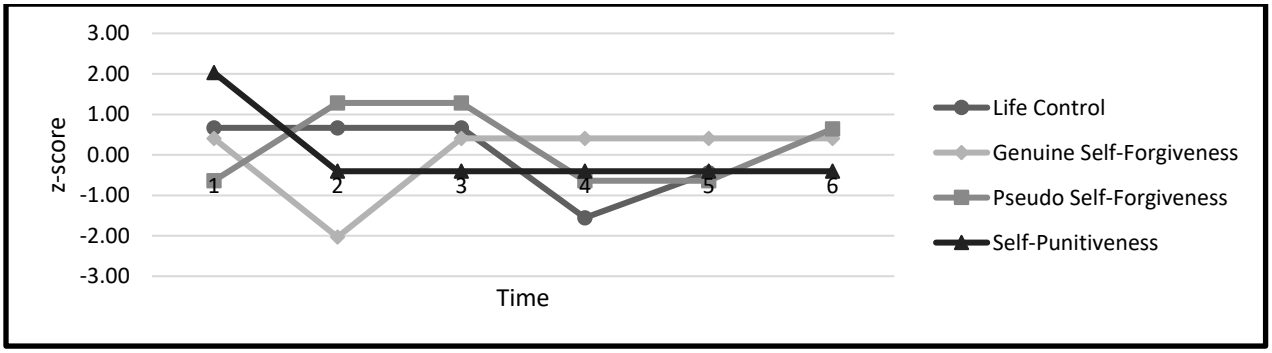

Figure 25. Life Control and Self-Forgiveness Subscales over Time (Michelle).

Julia's data (Fig. 26) demonstrates a steady increase in her sense of control over her life across the course of the study period. It also appears to most closely correspond with pseudo self-forgiveness, though the first and last points are divergent. Interestingly, it appears to demonstrate an inverse relationship with genuine self-forgiveness, meaning that as genuine self-forgiveness scores dropped, Julia's sense of control over her life increased.

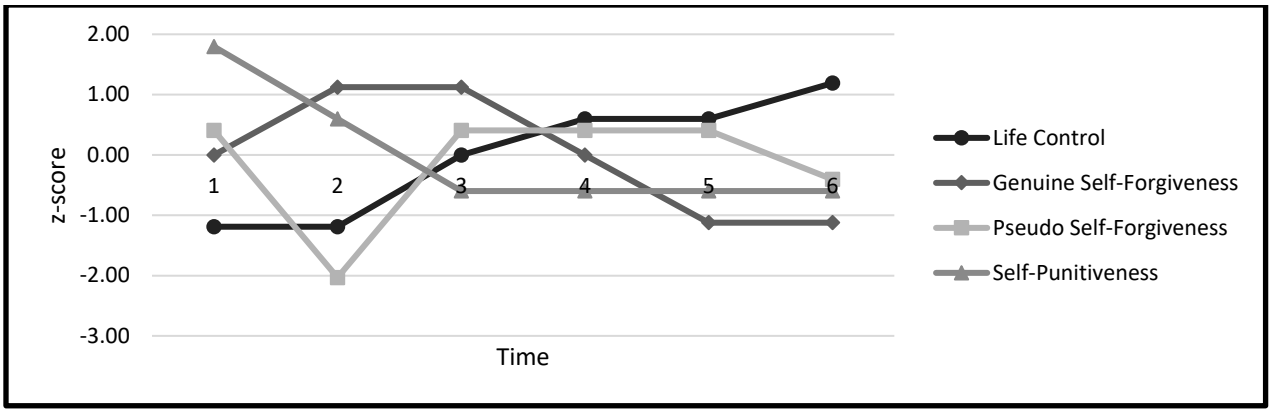

Figure 26. Life Control and Self-Forgiveness Subscales over Time (Julia).

For Sarah, life control (Fig. 27) showed some minor fluctuations over the study period and most closely followed the paths of genuine self-forgiveness and self-punitiveness.

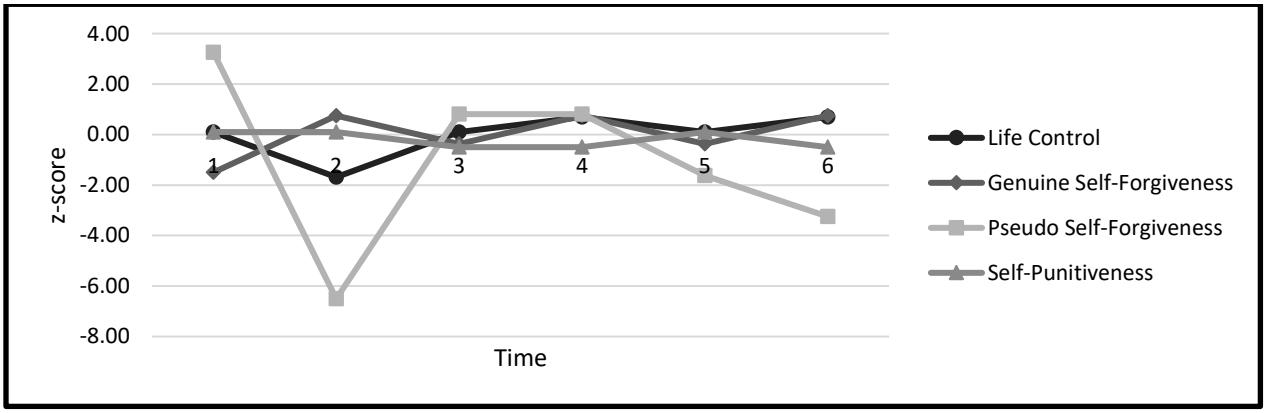

Figure 27. Life Control and Self-Forgiveness Subscales over Time (Sarah).

Though life control did not show a strong correspondence with any of the self-forgiveness scales in Shannon's data (Fig. 28), it tended to follow the movements of pseudo self-forgiveness most nearly in direction, though not in magnitude.

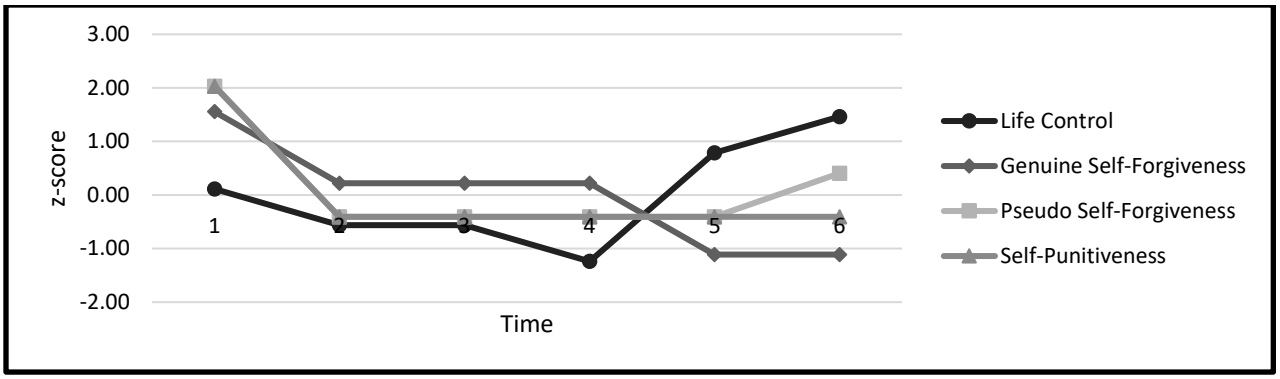

Figure 28. Life Control and Self-Forgiveness Subscales over Time (Shannon).

Discussion

This exploratory study utilized both qualitative and quantitative methods to detect self-forgiveness and pain perception interactions in women with chronic pain. Because of the idiographic design of this study, the findings cannot be generalized beyond the specific participants except as they link theoretically to the related literature base. Four main questions suggested by the literature guided this study:

1. Do the participants' narratives or survey responses suggest any linkage between self-forgiveness and the perception of pain?
2. Do participants portray their pain experience as a betrayal by their body, and if yes, have they ever forgiven or thought about forgiving that painful body part?
3. Do pain and self-forgiveness narratives reflect the emotional shift from negative to positive that accompanies genuine emotional forgiveness per the literature? If yes, is this influence evident in their narratives of pain? Is it observable in the survey data?
4. What linkages can be made between the literature base and the data from this current study?

Regarding the survey portion of this study, it is important to note that without statistical analyses, it is not possible to establish whether apparent, visual associations represent true

relationships between the constructs measured, or are actually correlated with another variable they may each be related to but which was not measured. This visual evidence of relationship in the absence of meaningful analysis is perhaps analogous to the seeming association between hot asphalt roads and increased ice cream sales. Though the surveys are presented and analyzed visually as if the constructs being measured are related in some way, this cannot be established with any degree of certainty within the scope of this study.

Are Self-Forgiveness and the Perception of Pain Associated in the Data?

This question was intended to explore how the participants experienced self-forgiveness and chronic pain, and whether they noticed any influence between them. In other words, if they were in a self-defined state of self-forgiveness, what did they notice about their level of pain? The narrative portion of the study did not include questions about pain experiences when participants were not self-forgiving, but this was approached through exploring the experience of self-directed anger or holding a grudge.

Interview analysis. Only one of the four participants indicated she had contemplated the concept of forgiveness prior to participating in this study, and all four indicated that they had never considered forgiveness/self-forgiveness in relation to their pain before being recruited as a participant. For each, the idea that pain and forgiveness could be related in some way was novel. As a result, the participants did not have narratives to share that could directly illustrate this relationship in their lives.

In anticipation of this possibility, the final interview question was designed to pull for this evidence directly by asking each to imagine forgiving a painful body part and then share what, if anything, she noticed. Interestingly, two of the participants, Michelle and Julia, noticed a change in energy, affect, and relaxation, but not a change in pain. This is consistent with ACC

activation, which is associated with changes in pain affect but not with pain intensity (MacDonald & Leary, 2005). The other two participants reported a decrease in pain intensity when they imagined forgiving a painful body part. Shannon was experiencing a low pain day and only noticed a slight shift. She reported being able to imagine a meditative process of self-forgiveness that would be more noticeable if she were in more pain. Sarah experienced a sudden remission of pain in the body part she had focused on, which left her in a state of excited disbelief. The degree of relief she experienced was unexpected by the interviewer as well, especially as she was the only one of the participants who denied being able to self-forgive. Whether these experiences were rooted in a desire to please or as part of a placebo-type response, simply imagining offering forgiveness to a painful body part resulted in all four participants experiencing some sort of positive change.

In contrast to forgiveness, three of the participants were easily able to identify interactions with their physical experiences when exploring self-directed anger or holding grudges. These three were quite aware of a direct, negative impact on their physical selves when they were angry, frustrated with their bodies, or holding a grudge. In talking about her experience of pain interfering with her life, Julia described feeling “achy,” “heavy,” and “tired” when she holds a grudge, and she noticed her pain and fatigue lifting and her anxiety decreasing when she lets it go. On the other hand, Sarah, who shared never having connected mental and emotional distress with her physical experiences, shared her awareness of her internal distress when she is angry with herself and is unable to let it go, but not of any physical impact from her negative self-directed emotions. The idea that mind and body could directly interact was still quite new to her.

Survey data: Pain severity and self-forgiveness. Pain tolerance has been correlated

with mood valence, with lower tolerance and higher pain associated with negative mood and higher tolerance and lower pain with positive mood (Park & Sonty, 2010; Tang et al., 2008). A state of self-forgiveness is defined by the release of negative emotions and replacement by positive emotions (Wohl et al., 2008). Though pain perception and self-forgiveness have not to my knowledge previously been studied together, these findings suggest that perceived pain could be influenced by one's state of self-forgiveness. The survey results for this study however did not demonstrate a clear relationship between pain severity and state of self-forgiveness.

Pain intensity, as measured by the pain severity subscale of the WHYMPI Part A, showed no consistency in its relationship with the self-forgiveness subscales of the DPSSF across participants. Additionally, Michelle's (Fig. 13) and Shannon's (Fig. 16) pain severity data demonstrated no consistent associations across any of the self-forgiveness subscales. For Shannon, pain severity does appear to show an increasing trend as genuine self-forgiveness, pseudo self-forgiveness, and self-punitiveness drop sharply and then plateau across the first four data points. This would seem to indicate that Shannon's pain severity was increasing as her scores for genuine and pseudo self-forgiveness dropped. As self-punitiveness also decreased and plateaued in step with the other two self-forgiveness processes however, this would indicate that her mood also worsened as she became less self-punitive. Additionally, this inverse association between pain severity ratings and self-forgiveness scores reversed in the last two data points. As with Michelle's data, it may be that Shannon's ratings of pain severity were independent of her ratings of self-forgiveness and were responding to something else entirely.

Julia's data (Fig. 14) demonstrated a direct relationship between pain severity and self-punitiveness such that as self-punitiveness scores decreased, so did her pain severity ratings, which is the expected association. However, genuine self-forgiveness scores, which initially

increased as pain severity decreased, reversed and mapped directly onto pain severity over the last three data points. If these constructs were associated for her, it meant that her ratings of pain severity reduced as her sense of genuine self-forgiveness also decreased in the second half of her data, which is not the expected association.

Sarah's data (Fig. 15) was interesting because although the variability was low across all three weeks, pain severity showed a consistent small inverse relationship with genuine self-forgiveness. Though genuine self-forgiveness and self-punitiveness were very similar, a point-by-point review also shows them to be inversely related to each other as well. This suggests that Sarah experienced less pain when she was more self-forgiving, and more when she was more self-punitive, though the scale of change is quite small. Pseudo self-forgiveness, unlike the other subscales, fluctuated widely in Sarah's data. When also examined closely, the increases and decreases seen in pain severity are generally, though not consistently, directionally matched by pseudo self-forgiveness, though at a much greater amplitude. Sarah's findings related to genuine self-forgiveness and self-punitiveness are supported by the literature, though the changes are so small as to likely be insignificant. Any relationship of pseudo self-forgiveness and pain severity in Sarah's data however, is not aligned in the expected direction.

What does this mean? Taken together, these findings are not fully consistent with either the literature or with the participants' narratives. A couple of possibilities suggest themselves regarding the visual data. The first is that the measures may not be sensitive enough to demonstrate the expected relationships on a case by case basis, and would only be detectable at a statistical level based on a much larger sample. Another possibility is that the decision to track self-forgiveness and pain twice per week for three weeks, selected so as not to put too onerous a burden on the participants, was too expansive a timetable. As it is unclear how rapidly

self-forgiveness is processed, especially for relatively minor offenses, it is entirely possible that the less relevant the offense being tracked became in the participant's daily life, the less associated it became with pain severity. This could account for indications that pain severity and self-forgiveness measures appear to be associated in the first half of the data sets for Julia and Shannon, and then reverse or decouple.

How is the Painful Body Experienced?

Crowe et al. (2010) found that the unpredictability of chronic pain led to increased body vigilance and objectification by chronic pain sufferers, and altered their sense of self. Some people may experience this as a "betrayal" by their bodies. I wondered whether this attitude would emerge in any of the interviews, and if it did, whether the participants had experienced or thought about forgiveness relative to their painful body parts.

Body betrayal. Michelle and Julia described their experiences of their bodies similarly, with Michelle recounting the impatience she feels with her body when her pain interferes with her life, and Julia talking about feeling frustrated with her body. Both also noted the negative impact on their sense of self. Michelle shared how difficult she finds it to maintain a positive sense of self-worth when her pain interferes with her life, while Julia shared becoming uncomfortable with who she is as a person. This is consistent with the findings of Morley et al., (2005), who found that when having a positive sense of self is tied to being pain-free for an individual with chronic pain, his or her identity is likely to get trapped in the pain experience.

Sarah shared sometimes feeling angry about the painful parts of her body but her tendency was to internalize that anger and frustration. She reported "It just eats you up," and like Michelle and Julia, Sarah did not seem to separate her sense of self from her pain.

In contrast, while Shannon also described feeling frustrated with the imposed limitations

of her body, she described actively working to separate her experience of pain from her sense of identity: Pain is something that happens to her, not who she is. Prior to changing her perspective on her pain, she perceived it to be "consuming her," consistent with the experiences of the other participants. As noted by Park and Sonty (2010), being able to sustain positive emotion despite increased stress and pain is indicative of effective coping. This coping style helps to deactivate the negative pain-stress cycle that entraps many chronic pain sufferers.

Though all the participants experienced negative feelings towards their painful bodies at times, only Julia's description of being reluctant to offer her body forgiveness suggested the possibility of feeling "betrayed" by her body. Each seemed to identify the primary source of her anger or frustration as stemming from the belief that her situation was unfair, signifying the view that this was an external event unjustly imposed on her, consistent with the literature (e.g., Pâquet et al., 2016; Scott et al., 2013). While they might be frustrated with the limitations and interference their pain created in their lives, their negative emotion did not generally seem to be directed at their bodies.

Forgiving the painful body. Just as the participants had not considered self-forgiveness in the context of their pain experience, the idea of offering the painful body forgiveness was novel to each. Sarah noted that it had never even occurred to her that her pain might be related to the stresses in her life or that it was possible for social and emotional situations or experiences to impact her body the way chronic pain does. Both Michelle and Shannon envisioned being able to offer forgiveness to their painful bodies through formalized ritual. Shannon described a meditative, body-scan process she thought would be helpful, while Michelle imagined a ceremony that included music, symbolism, and which engaged all the body's senses. In contrast, Julia struggled with ambivalent feelings about offering her body forgiveness for hurting her and

was uncertain whether she could or even wanted to.

The literature is silent on the concept of forgiving the painful body, so connections can only be inferred from related research. As has been previously established, unforgiveness is comprised of negative emotions such as anger, depression, and fear, and these may be reinforced over time through ruminating about the offense (Worthington & Scherer, 2004). Negative emotion is also a factor associated with the experience of pain. Individuals with chronic pain report emotional lives dominated by anger, fear, and depression (Finucane et al., 2012), not unlike a state of unforgiveness. Negative emotional states have been linked to poor health outcomes, and include harmful physiological changes such as decreased immune function (Banks & Kerns, 1996). Forgiving responses, such as empathy or compassion, can enhance a sense of wellbeing through stress reduction and improved emotional states (Witvliet et al., 2001), and positive emotional states appear to provide a protective health factor associated with physiological changes, such as improved immune function and increased longevity (Richman et al., 2005).

As noted, all four of the participants experienced a positive change in either their physical pain or in their mood, even if slight, just by imagining offering their bodies forgiveness. As previously described, Sarah's experience was the most dramatic. According to Kradin (2008), both hypnosis and placebo effects can stimulate the production of endogenous opioids, and all three modulate the ACC. Endogenous opioids produce analgesia and stimulate positive emotion. It is entirely possible that Sarah, who came to her interview following her overnight shift at work, entered a hypnotic state while internally focused on imagining offering her painful body forgiveness.

Survey data: Pain interference and self-forgiveness. As noted by Banks and Kerns

(1996), uncertainty is a central feature in the life of a person with chronic pain. Planning to participate in activities and attending to roles and responsibilities may become challenging as pain flare-ups and fatigue interfere, and as the individual must learn to pace him or herself. Because pain intensity can vary from day to day, or even within a day, work, leisure, daily living, and sexuality can be significantly impacted. This degree of inconsistency in being able to meet obligations, attend to responsibilities, maintain roles, and participate socially can be highly disruptive to social, family, and marital relationships.

When examining pain interference in the context of self-forgiveness, my assumption, based on the related literature, is that they are inversely related, as forgiveness and pain are closely tied to emotional experience. My expectation was that ratings of interference with life activities would be higher when genuine self-forgiveness was rated lower. The survey measures partially support this anticipated relationship. Though Julia's data (Fig. 18) mapped almost directly onto self-punitiveness and Michelle's data (Fig. 17) did not appear to correspond well with any of the forgiveness measures, both Sarah's (Fig. 19) and Shannon's data (Fig. 20) appear to show genuine self-forgiveness and pain interference inversely varying over time. Sarah's data is more difficult to interpret because of the low variability across the pain interference, genuine forgiveness and self-punitiveness subscales. In her case, a legitimate argument could be made that pain interference was equally associated with self-punitiveness. The possibly closer relationship of self-punitiveness and pain interference in Julia's and Sarah's data makes some sense, as higher levels of self-directed anger and reproach could intensify the perception of pain, which could, in turn, directly impact daily life.

For Shannon's data, the expected relationship is observed across the first four data points and then reverses. As noted previously, this may indicate that the self-forgiveness process,

particularly for minor offenses, is resolved more rapidly than the time period tracked for this study, and once the process is done, the association is lost.

Do the Pain and Self-Forgiveness Data Reflect Emotional Shifts from Negative to Positive?

In the literature, there appear to be parallels in the processes of accepting one's painful body and moving on with life and those of genuinely self-forgiving and releasing negative emotion. I wondered if these parallels could be discerned in the women's narratives and how they might relate to each other. In other words, would the narratives of self-forgiveness reflect the emotional shift from negative to positive that accompanies genuine self-forgiveness (Elliott, 2011; Kaminer et al., 2000), and if so, would it influence how they talked about their experience of pain?

Emotional shifts in the narratives. Negative emotional experiences associated with various aspects of having chronic pain were apparent through all four narratives. These included frustration, anger, depression, helplessness, resignation, self-criticism, self-blame, self-doubt, and a sense of unfairness in having to manage chronic pain and its related limitations and interferences with life. The interplay among emotions was strong in the narratives. For instance, invalidation by others consistently made negative feelings worse. When looking at interactions between emotional and physical states however, the direct effects of one on the other were not always as clear. Though Shannon's narrative acknowledged the bidirectionality of influence between body and emotion, consistent with Tang et al. (2008), who found that mood, reported pain levels, and pain tolerance are linked, shifts in emotion due to changes in pain were more evident in each of the interviews than alterations in pain due to changes in emotion. For example, Michelle's narrative spoke of pain interference and limitations leading to feelings of depression, frustration, and anger, particularly in relation to achieving life goals.

Though more difficult to elicit, the effects of mood on the body were also articulated, again consistent with Tang et al. (2008). Julia had the most to say in this regard. She noted that when she found herself holding onto negative emotions, her body reacted with general achiness and fatigue, which dissipated when she let the feelings go. She elaborated that when this happened, her negative emotions were replaced by feelings of contentment. She shared her observations that as she has become more positive in her sense of self, which she attributes to therapy, she has noticed that her pain has been decreasing, which motivates her to keep moving forward. This finding is similar to that of Osborn and Smith (2006), who found that chronic pain patients who participated in pain management programs developed a more positive sense of self. This suggests that therapy, even when not specifically or exclusively focused on pain management, can be effective in helping clients learn to manage pain. This may occur through helping them recognize the connection of body and mind, as seems to be the case with the participants in this study, as well as by giving them positive ways to process their emotions and reduce the suffering they experience from not accepting the pain they live with.

Survey data: Affective distress and self-forgiveness. Self-forgiveness occurs when self-directed negative emotions are released and replaced with positive emotions such as peace, love, and compassion (Elliott, 2011; Kaminer et al., 2000; Wohl et al., 2008), while unforgiveness fosters negative emotions such as anger, depression, and fear (Worthington & Scherer, 2004). Several studies have examined the relationship between emotional states and perceived pain. For instance, Scott et al. (2013) found that the perception of injustice engendered anger, which led to more intense pain. In a similar vein, Okifuji et al. (1999) found that self-directed anger was also significantly related to pain. Mood has been demonstrated to influence reported pain levels and it changes pain tolerance, with negative mood associated with

higher pain and lower tolerance and positive mood with the inverse (Park & Sonty, 2010; Tang et al., 2008). These findings would lead one to expect that emotional states and forgiveness are linked and could be demonstrated in self-report data. However, Nicolson et al.'s (2010) findings of a decoupling of cortisol production from affect in the chronic pain population suggest that any physiologically-related association between self-forgiveness and chronic pain could be quite difficult to detect.

The survey results for this study are mixed, much like the participants' narratives regarding physical and emotional state interactions. Sarah's data (Fig. 11), Shannon's data (Fig. 12), and Michelle's data (Fig. 9) all show a generally direct relationship between affective distress and genuine self-forgiveness, indicating that as affective distress increased or decreased, genuine self-forgiveness also increased or decreased. This is counter to the expected relationship between these constructs. Regarding Sarah, affective distress scores were again reported with low variability, so whether the association is with genuine self-forgiveness, with self-punitiveness, or with something else entirely is inconclusive. Michelle's affective distress data showed high variability across the study period, but appears to have a direct relationship with genuine self-forgiveness. Additionally, her affective distress scores varied inversely with pseudo self-forgiveness, indicating that her mood was better when her pseudo self-forgiveness scores were higher. This finding is also counter to the expected association.

For Julia (Fig. 10), affective distress appears to be most closely associated with self-punitiveness, and as self-punitive scores drop, so do her affective distress scores, an expected finding. Intriguingly, her genuine self-forgiveness scores move inversely with affective distress over the first three data points, as would be expected, and then, as has been previously seen in Shannon's data, reverse, resulting in scores that suggest that over the last three data

points, her mood was improving as genuine self-forgiveness was decreasing. In those last three data points, pseudo self-forgiveness scores also increased.

These findings are difficult to interpret with any confidence. It is certainly possible that the influence of any of the self-forgiveness processes are simply too weak to have much impact on affective distress related to pain. The data are again suggestive as well that self-forgiveness processes may be relatively brief for minor offenses, which allows them to detach from the pain-related scores quickly. It is also possible that being in a state of pseudo self-forgiveness, in which blame is shifted away from the self and placed on another, may lead to an improved mood state, at least temporarily. Pseudo self-forgiveness does not require difficult self-reflection, taking responsibility for wrongdoing, and personal change. Finally, the self-monitoring of mood, pain, and self-forgiveness necessarily brought these constructs into the participants' awareness in a way they had likely not been conscious of prior to this study. This change in awareness could potentially have had an impact on how they were experienced and then reported.

How do the Interview Findings Link to the Literature?

Narratives of Pain. Consistent with the literature, which finds that chronic pain leads to significant disruptions in life and results in negative emotion (Tan et al., 2008), the participants in this study reported feeling unable to achieve important goals in their lives due to pain, which often left them frustrated, angry, and depressed.

Impact on life and sense of self. According to Morley et al. (2005), frustration is the strongest and most common feeling reported by individuals in relation to their chronic pain experience. In this study, all four participants expressed their frustration with the complications chronic pain created in all aspects of their lives. These frustrations included invalidating interactions with the medical community, frustrations with their bodies, frustration in achieving

important goals, and frustration with themselves for their perceived failings. According to MacDonald and Leary (2005), frustration increases suffering and intensifies the pain experience. Michelle spoke to her awareness of this relationship in her life: "I'm aware of not accepting that [pain interference], and I'm aware of the suffering that comes from not accepting."

Feelings of frustration often overlapped with feelings of anger, particularly self-directed anger, among participants in this study. Okifuji et al. (1999) determined that self-directed anger, as well as the intensity of that anger, were associated with both pain and depression. Like this current study, they found that self-directed anger was the most common form in people with chronic pain.

When chronic pain becomes an obstacle to living life like other people do, in addition to intense frustration, it can also engender hopelessness and depression (Morley et al., 2005). All the participants in this study endorsed some degree of resignation or feeling of helplessness regarding their pain experience. Per Herrero et al. (2008), this is a passive response style which is an outcome of the individual's belief that they have no control of the situation. It is associated with greater perceived pain, poorer adjustment to the situation, and higher rates of depression (Herrero et al., 2008). Michelle's reflection, "I call it an Eeyore nature, you know, of like 'Why bother?' Kind of a, I think it helps me to see myself as incapable…," and Julia's comment, "I just kind of, not give up, but, in, in a way, I just go 'Okay, well, that, that's it. I can't do much about it'" each illustrate this finding.

Alterations to the sense of self occur as individuals with chronic pain lose important roles, responsibilities, or the ability to engage in desired activities (Crowe et al., 2010). Shannon shared her conscious effort to keep her sense of identity separate from her pain, which she had found was beginning to overwhelm her. Sarah struggled to balance her physical limitations with

being an active participant in family activities, and shared her fears of "ruining" these events for the others. Michelle gave up teaching and then dancing, while Julia was frustrated in her efforts to find employment she could manage. Three shared experiences of pulling back from social involvement as per MacDonald and Leary (2005), though none endorsed feeling socially anxious, contrary to that study. Two of the participants were clear that decreasing social involvement was not because they no longer wanted to engage with others, but specifically because of the limitations imposed by pain and its resultant fatigue.

Participants in this study also spoke of feeling alienated from the "normal" everyday life of others around them. Much of this alienation seemed to stem from the unpredictability of pain, which made it difficult to plan or commit to activities or responsibilities. For example, Julia described being hypervigilant towards any changes in her body, stating, "I get worried of when I, like, if I feel a little, the slightest bit of anything. I get worried and I think about it now. Before, I didn't." And Michelle shared how unfair it felt that other people could move however they wanted to, while she had so many limitations she had to think about her movement, including even just rolling over in bed. These experiences are consistent with the findings of Nicolson et al. (2010), who reported that chronic pain sufferers had changes in cognition and behavior which corresponded with the development of increased vigilance towards their bodies. As in this current study, they found that chronic pain sufferers attend closely to movements and activities that could formerly be completed without any conscious attention.

Unfairness/injustice of having chronic pain. The sense that life was treating them unfairly was a commonality in the narratives of all four participants, and was aligned with the literature. According to Scott et al. (2013), blaming the undeserved distress and loss associated with chronic pain on external sources creates a perception of injustice as the individual attempts

to make meaning of his or her experience. Michelle noted that her pain experience felt "punitive." Whether an individual adjusts well or poorly to chronic pain is influenced by the meaning ascribed to it. When chronic pain is perceived as unjust or unfair, it can lead to anger, helplessness, and deeper depression (Pâquet et al., 2016). This is consistent with Michelle's sense of being punished by something unidentified outside herself and with feeling helpless to achieve her life goals due to her chronic pain. Both Sarah and Julia's plaintive "Why me?" also point to the feeling of being unfairly targeted for pain. Like Michelle, Julia expressed a sense of helplessness and resignation to her inability to change her situation. Shannon's sense of undeserved pain was less direct, but was discernable in her musings about whether she could be someone who did not "have to" experience chronic pain.

Also consistent with the literature regarding injustice and chronic pain, Michelle, Julia, and Sarah endorsed strong feelings of anger in their narratives, which Scott et al. (2013) associated as developing subsequent to the perception of injustice. Shannon said she had been quite angry in the past, particularly in adolescence when her pain was at its worst, but because of her mindfulness practice in adulthood, this subsided to feelings of impatience and frustration with her limitations.

The pain of invalidation. Invalidating experiences regarding chronic pain were another area of commonality among the four participants. Julia and Shannon shared many painfully invalidating incidents with medical providers. For Shannon, these resulted in her ceasing to seek medical treatment. She recounted an incident with a provider in which she felt unheard and subsequently turned that pain against her own interests: "And I'm like, 'Well, but this is happening,' and they totally blew it off. So, alright, so I blew it off too." For Michelle, the invalidating experience was subtler but still noticed, as in an eye roll when the topic of chronic

fatigue came up. The lack of credibility common to chronic pain sufferers is consistent with findings in the literature, which note that these experiences make the suffering worse (Annemans et al., 2009; Geenen et al., 2009). In line with these findings, Julia shared feeling humiliated and as if she was morally suspect when she went to the hospital in extreme pain and the doctor assumed she was just drug seeking. She shared how much worse those types of encounters made her feel, especially as her expectation in going was that she would get help. Shannon and Julia's experiences are also consistent with the findings of Crowe et al. (2010), who reported that the absence of a visible pathology can lead to providers questioning the moral character of the chronic pain patient instead. This shift in focus can result in providers approaching these patients as malingerers or as having mental health problems rather than with the compassion with which they might treat someone with an obvious pain condition, such as cancer.

Family members and friends also sent invalidating messages. Shannon shared experiences from her childhood when she was given Tylenol and expected to just "deal with it" when she was in severe pain. It was assumed that she was simply experiencing "growing pains," so she wasn't taken seriously. In fact, her verbal signal that she was in pain, "knees and ankles," became something of an inside joke in her family. Despite reporting having loving and supportive family members, Shannon still experienced having her pain invalidated. As noted by Crowe et al. (2010), the covertness of chronic pain pathology can result in sufferers feeling dismissed, invalidated, demoralized, and unsupported by those around them.

Managing pain. According to Adams et al. (2006), the use and effectiveness of coping strategies to manage chronic pain determine in large part whether or to what degree co-occurring affective disorders, such as depression or anxiety, will be present. The presence of variables such as perceived locus of control, self-efficacy, avoidance, and/or passivity are central in determining

what strategies are employed and how effective they are. In general, positive affect is associated with greater coping ability and a stronger sense of self-efficacy.

Thinking of their pain as a normal state was the one coping strategy employed by all four participants. For the two participants who had experienced chronic pain since early childhood and who did not have another point of reference, this was not particularly remarkable. It was more surprising for the two participants who had not developed chronic pain until adulthood. For them, this strategy seemed to be a way to avoid acknowledging, or maybe minimizing, the impact of the pain on themselves, perhaps helping make their daily experience feel more manageable. In a similar vein, three of the participants also shared imagining others who were worse off than themselves when they were feeling distressed about their pain, seeming again to minimize their own experience through comparison.

Herrero et al. (2008), outlined three types of cognitive appraisals individuals make regarding stressful events or situations, including chronic pain, to assess the potential impact of that stressor on his or her self. The appraisal types are assessment of harm or loss, threat, and challenge, and the type of appraisal used is highly influential on the coping strategies subsequently employed. When chronic pain is assessed as threat, harm, or loss, Herrero et al. found that a more passive and emotion centered coping style is likely to be employed. Passive approaches are associated with feelings of helplessness and lack of control over the situation, as well as with greater perceived intensity of pain, poorer adjustment, and more depression. This contrasts with the appraisal of challenge, which leads to active, problem-solving strategies and healthier adjustment (Herrero et al., 2008). All the participants in this study generally seemed to use passive approaches to coping, as demonstrated by Julia's "Okay, well, that, that's it. I can't do much about it," and Michelle's "Why bother?" statements of helplessness. Differing from the

others, while Shannon's narrative also showed elements of passivity, she appeared to use active approaches as well, such as engaging in mindfulness practices that helped her regulate her emotional state to good effect. The largely negative emotions the participants included in their narratives may reflect the predominance of passive coping approaches for three of the women.

Though far less prevalent, positive emotions, such as hope and gratitude were also expressed by the participants. Improved coping abilities and a better sense of effectiveness in one's life are associated with positive emotions. Park and Sonty (2010) note that these in turn are associated with short and long-term improvements in functioning, as well as a decrease in the experience of pain. Sarah and Julia each spoke of deeply appreciating the days when their pain was at a lower level, with Sarah enthusiastically sharing how she takes advantage of that time to engage in preferred activities. Three of the participants spoke about their efforts to try to keep a positive focus on their lives. Michelle and Shannon each worked to adjust their self-talk to be more affirming, while Julia noted that she worked to notice and mentally emphasize the good things in her life. She shared that as she has become more consistent in doing this, she has noticed her pain decreasing, consistent with the findings of Parks and Sonty (2010).

Forgiveness/Self-forgiveness.

Conceptualizations of self-forgiveness. How the participants in this study defined self-forgiveness aligned in part with the research literature. Specifically, the approaches shared were dynamic, with both active and passive components making an appearance. As per Lawler-Row et al. (2007), active approaches, such as moving on, and passive approaches, such as self-reflection, were present in the narratives with greater or lesser emphasis. However, in contrast to their findings regarding layperson understandings of forgiveness, one participant professed little understanding of the concept of self-forgiveness, and two gave definitions more

closely aligned with psychological rather than the more expected theological perspectives common to layperson definitions. Only one participant drew on a religious tradition to inform her definition of self-forgiveness. This nonconformity may be the result of the participants being drawn from a convenience sample that included most endorsing no religious affiliation, as well as the requirement that each be in therapy at the time of her interview.

Each participant did reference the necessity of taking responsibility for having done something wrong in order to move towards self-forgiveness. Three endorsed engaging in a process of self-reflection that could result in a shift in perspective and a release of negative emotion. The perspective shift seemed to be a form of acceptance of a situation that could not be changed from which they were then able to move towards self-forgiveness. These three described the experience as a form of personal growth. This is consistent with the findings of Wohl et al., (2008), who found that self-forgiveness requires the individual to go beyond self-compassion and acceptance and take responsibility for the harmful action. Only then can self-directed negative emotions be released and replaced with more positive emotions (Wohl et al., 2008). It was notable in the narratives that this process allowed each of the three who had experience with self-forgiveness to embrace their imperfections. This was described by Woodyatt and Wenzel (2013) as a process of integration that allows for a more complex understanding of self.

The one participant who professed no understanding of self-forgiveness acknowledged that she could and did forgive other people for their wrongdoing towards her. If she was the one responsible for an interpersonal injury, she used apology to make amends, but did not release herself from blame and self-directed negative emotions, even when the apology was accepted. She was aware of the negative impact that not releasing the self-critical thoughts and negative

feelings had on her, but rejected the idea that she was deserving of forgiveness. Her narrative was consistent with the findings of Wohl et al. (2008), who found that lack of self-forgiveness represented a self-punitive or self-disciplinary style that typically had a negative impact on self-worth.

The process of forgiveness/self-forgiveness. Each of the participants mentioned the need for time, either for forgiveness or for self-forgiveness. This process could take years before a participant came to a new understanding of herself and her role in the offense that then allowed her to accept responsibility for her part. From there, she could release the negative emotions associated with feeling guilty and assume a more positive self-view. The narratives were in line with the findings of Wenzel et al. (2012), who found that it took time for people to reconcile feelings of guilt with a positive self-view. The shift from a negative self-perception to one that is more positive is typically gradual (Hall & Fincham, 2005; Maltby et al., 2001; Rangganadhan & Todorov, 2010); this finding is consistent with the narratives of the participants. One participant noted that the process could be so difficult and take so long that it was sometimes easier to just "move on" and try to forget about it instead of finding resolution.

What was striking about the narratives was the consistency with which each of the participants expressed doubt about whether she was deserving of forgiveness. One denied being deserving at all, while another wondered whether she ever truly forgave herself, though she tried. Two felt they had gotten to points of self-forgiveness for specific offenses, but it had been a difficult process for each, with self-doubt present along the way. The initially negative feelings engendered by recognizing and taking responsibility for wrongdoing, either towards the self or another is consistent with the first part of the process tasks of forgiveness outlined by Denton and Martin (2000), and may be the trigger for this sense of not being deserving of forgiveness.

Interestingly, some of the negative effects associated with a lack of forgiveness, as per Eaton et al. (2006), and Maltby et al. (2001), were not as clear. These effects include defensive avoidance of reminders of the wrongdoing, holding a grudge, or seeking revenge, and are associated with negative feelings such as depression, anxiety, distrust, and poor self-esteem. Though elements of some of these effects, particularly the negative emotions, were present, the avoidance aspects did not seem to feature in the narratives except for holding grudges. It is possible that the interview questions for this study simply did not tap into this aspect of not forgiving, rather than it being the case that the participants did not experience them. It may alternatively be the case that the participants were not currently in a state of unforgiveness that would generate that level of defensiveness. Additionally, as each of the participants was in therapy, it is also possible that each was learning to lean into discomfort rather than to avoid it, and problems like depression, anxiety, distrust and low self-esteem were being addressed within that process.

Letting go was mentioned by the three participants who could self-forgive, and was differentiated from moving on by the release of negative emotion. Elliott (2011) and Kaminer et al. (2000) identify the act of letting go as a hallmark of emotional, or genuine, forgiveness. Some of the positive effects associated with genuine forgiveness are stress reduction, improved sense of wellbeing, and compassion towards the offender (self or other), which were present in the narratives of these three participants. Julia described a feeling of contentment, Shannon shared feeling that an emotional weight had been lifted, and Michelle said she felt “lighter” and calmer. These comments suggest that, at least in some specific situations, they had reached a point of genuine self-forgiveness.

Personal growth and perspective change. Though difficult and sometimes painful, three

of the participants shared experiencing the process of self-forgiveness as a catalyst for personal growth, consistent with Rangganadhan and Todorov (2010) and Wohl et al. (2008). The fourth stated that she thought she would "be a better person" if she could do this, suggestive that she also saw it as an opportunity for growth, though not one she had consciously experienced herself. The narratives on this topic were well aligned with the literature, including the gradual shift from a negative to a more positive perception of the wrongdoer, whether self or another as noted by Hall and Fincham (2005), Maltby et al. (2001), and Rangganadhan and Todorov (2010). This shift also includes the experience of guilt and remorse that follows taking responsibility for wrong actions. This acceptance of responsibility motivates the changes and personal growth associated with self-forgiveness according to Hall and Fincham (2005).

Experience/Awareness of mind-body connections. Three of the participants in this study spoke of varying degrees of awareness of mind and body interactions while one denied this awareness. Herrero et al. (2008) describe the complexity of the concept of "self," and the relationship of the self to the body. As discussed previously, in the context of chronic pain, coping styles are related to how pain is appraised. But however the individual assesses and manages it, chronic pain impinges on the sense of self. According to Crowe et al. (2010), this intrusion is the result of a shift in how the body is viewed. The body without pain is usually the vehicle by which a person accomplishes his or her goals, and is otherwise largely "invisible" in this process. When pain intrudes and makes the body "visible" to the self, it becomes the focus of action rather than the source of action, thereby diverting one's sense of identity and imposing limitations on imagined future selves. Michelle's repeated references to her belief that the achievement of personal goals was something for other people but was not possible for her because of chronic pain is consistent with this position. In the view of Morley et al. (2005),

Michelle's belief suggests an identity that is enmeshed in the pain experience because having a positive sense of herself seems to be dependent on the absence of pain.

Afrell et al. (2007) studied the continuum of acceptance-rejection of the body in pain, identifying four primary typologies. Two typologies were associated with acceptance and integration of the new reality of chronic pain, which allowed the individual to move forward in life, while the other two were associated with ambivalence and rejection of the painful body, resulting in a more static position. Without acceptance, they postulated that it is not possible to shift attention away from the pain, limiting the possibility of a better future. Acceptance, as heard in Shannon's narrative, and ambivalence, exemplified by Julia, were present in the women's narratives in this current study. There were no instances of outright rejection of the body in pain, but whether integration was present was difficult to discern. Afrell et al. note that movement towards reintegration of self and body proceeds nonlinearly, though it is possible for ambivalence and non-acceptance to become permanent. This nonlinear process of acceptance and reintegration parallels the process of self-forgiveness.

In contrast to other research, the participants in this study did not endorse a sense of alienation from their bodies. Osborn and Smith (2006) conducted an IPA study with chronic low back pain patients which demonstrated that the participants often made stark distinctions between their "before" and "after" chronic pain affected bodies. Those participants tried to keep their sense of identity aligned with their original body experience while rejecting the new reality of their painful body. The painful body became associated with negative aspects of their identities, possibly to help defend the preferred self-concept.

Two possibilities suggest themselves as to why this phenomenon was absent from the narratives of this study's participants. The very limited number of participants with a resultant

narrow range of data is one such possibility. Another more interesting possibility is that while all the Osborn and Smith (2006) study participants had developed chronic pain in adulthood, and recently enough to retain a memory of before and after, two of the participants in this current study had suffered from chronic pain since early childhood, and a third had managed chronic pain for more than two decades. The shortest time period for managing chronic pain among this study's participants was 10 years. All four regarded their daily experience of chronic pain as normal, and while they appreciated low or no pain days, they generally seemed to consider those experiences the anomaly, rather than assigning that designation to their body in pain. It would be interesting to determine if there is a difference in adjustment between people who have experienced long-term chronic pain and those who are in the early stages of learning to manage pain. It is also worth noting that all the participants in this study were engaged in psychotherapy at the time of their interviews. Though none were asked why they had sought treatment, it can be assumed that all were being assisted by their clinicians to learn to live the best life possible given the reality of their limitations and challenges.

Personal impact of forgiving (self or other). The literature is mostly silent on the impact of forgiveness/self-forgiveness on chronic pain, with only one other preliminary study identified. In that study by Carson et al. (2005), forgiveness, anger, and perception of pain were studied in people with chronic low back pain. Using standardized measures, they found that forgiveness was inversely related to pain, anger, and distress, with anger largely mediating forgiveness and distress, and to a lesser extent, forgiveness and pain.

The present study was intended to explore the related but distinct concept of self-forgiveness in the context of chronic pain. This area turned out to be quite difficult to assess in this design as the narratives that were generated were necessarily retrospective, and none of

the participants had considered self-forgiveness in the context of their painful body experience prior to being recruited for this study. They were better able to recall changes in relation to anger, frustration, and other negative emotions, as well as in relation to letting go of those negative feelings than they were specific to forgiveness or self-forgiveness. Though related to forgiveness and self-forgiveness, letting go of negative feelings specific to anger or grudge-holding is not identical to the process of self-forgiveness.

Regarding the changes that were recalled, three participants relayed feeling better emotionally when they let go of negative feelings, with two likening the experience to one of lightness or the feeling of a burden being lifted. Two were specific that those changes did not lessen their pain intensity however. One participant, who denied self-forgiving and who had only recently been introduced in therapy to the idea of mind and body interacting and influencing the other, reported that she had no awareness of body changes in relation to her mood. Interestingly however, she did recognize being more irritable when her pain was worse. Though mind and body influences are bidirectional, among the four participants in this study, body experiences seemed to be more easily identified as impacting mood than the other way around.

These observations remained largely stable for three of the participants when they were asked to imagine forgiving their most painful body part for hurting them. The initial reaction for each was one of bemusement at the suggestion. However, each proceeded as requested and then shared their experience. Two were again clear that although they felt better after granting their painful body part forgiveness, there was no change in pain intensity. The third shared being able to imagine pain reduction, but was not experiencing much actual pain that day to apply it to. And as previously noted, the fourth had a dramatic remission in her pain specific to the area she granted forgiveness. This variability in responses suggests several possibilities. These include

(a) the likelihood of an element of social desirability for the participants to provide me with the presumed desired response (e.g., some remission of pain); (b) a placebo or hypnotic response; or (c) the actual granting of forgiveness to the painful body part for causing pain.

Conclusions

Although the narratives, and to a lesser extent the surveys, were generally aligned with the chronic pain and forgiveness literature separately, the hypothesized connection between chronic pain and self-forgiveness was not clearly demonstrated. It is possible that participants needed more time to think about self-forgiveness in relation to chronic pain as this was a new concept for them. The novelty of this association may have clouded clearer links between emotional self-forgiveness and the perception of pain in the narratives of women with chronic pain. There were tantalizing associations within their narratives and survey responses with both chronic pain and forgiveness-related research, suggesting that a different approach and more finely tuned instruments might still find connections between these areas.

To elicit those connections, it may have been more effective to prime the topic associations by conducting the survey portion of the study first, followed by the interview. This would have allowed the participants to begin noticing any correlations in their own experiences, which they could have then drawn from during the interview. It was apparent that the idea that forgiveness and chronic pain could be connected was new for each of the participants, making it difficult for them to respond to interview questions regarding their experiences of these connections.

It could also be the case that any relationships that may exist between self-forgiveness and pain perception in chronic pain can only be detected statistically, requiring a quantitative rather than qualitative approach. It also appears that following the self-forgiveness process over

three weeks was longer than necessary, and may have obscured the data. Self-forgiveness processes appeared to go through the most change over the first three to four data points, suggesting that a two-week period for data collection may be sufficient for tracking the resolution of minor infractions. If the self-forgiveness process has been completed, but data collection continues, the participant may no longer be processing the offense except when prompted by answering survey questions. This suggests that there would no longer be a link in real time between self-forgiveness for that specific event and pain severity, interference, or affective distress. For minor infractions therefore, a denser, briefer survey schedule may more clearly capture the moment-to-moment evolution of self-forgiveness and its possible interactions with affective distress, pain severity, and pain interference. Asking participants to complete three sets of surveys per week would still yield enough data points to assess for trends, and would also provide a closer look at how the forgiveness process unfolds over time.

Finally, the findings of Nicolson et al. (2010) regarding the apparent detachment of cortisol production from affect in people with chronic pain may play a role in the mixed findings of this study. With pain as a chronic stressor, cortisol production appears to become dissociated from daily mood, pain intensity, interpersonal stress, or sleep disturbance, unlike its function in the normal population. This apparent detachment of cortisol production from emotional states suggests that for those with chronic pain, detecting any physiological changes that could be associated with forgiveness or self-forgiveness might be difficult. The narratives of the participants in this current study do not align neatly with this finding however. All four of the women in this study shared an awareness of some level of interaction between mood and pain, and all four experienced a shift in pain or mood during the interview when they offered forgiveness to a painful body part. This suggests that for these participants, mood and pain

interacted in a way that was discernable to them regardless of what may have been occurring with their cortisol production, and this interaction extended to the granting of forgiveness or self-forgiveness. It is possible that in those without chronic pain, the interaction would be more apparent, but it does not appear to be the case, at least with these participants, that the chronic pain experience is too overwhelming for the positive effects of forgiveness/self-forgiveness to be noticeable.

Clinical Implications.

It was apparent in the narratives of these participants that the invalidation they have experienced from medical personnel, friends, and family, even when unintentional, has had a profound effect on their lives. It has left them at times feeling alienated, demoralized, angry, and depressed. Additionally, the impact of unending pain on self-identity and self-worth was also prominent in their stories.

Therapists can play a role in helping to ameliorate these negative influences and reduce the suffering of their clients with chronic pain, but they need to be aware that this is an important part of why a client may be in distress. Because of our culture's tendency to separate mind and body and treat them as if they do not interact, therapists may fail to ask about the presence of chronic pain in a client's life. Likewise, clients may not consider the distress that led them to seek therapy as being related to their chronic pain. As invalidation of their pain as being "real" is such a common experience for many people with chronic pain, they also may not volunteer this information. Including the simple question, "Are you someone who experiences chronic pain?" as part of an initial therapy assessment may open the door to a greatly broadened picture of why the client is there and what can be done to help relieve his or her suffering. Offering the validation that their pain is not an indication of weakness or malingering, that their personal

losses are real, and despite this, they can live lives of meaning and purpose may bolster whatever hope helped them to seek therapy in the first place.

The role of forgiveness or self-forgiveness in therapy may also be a fruitful area for exploration with a client. Given that 89% of Americans report that they believe in God, while 51% report regularly attending religious services (Newport, 2016), being willing to explore spiritual or religious dimensions of forgiveness or self-forgiveness with a client in addition to psychological perspectives within the therapeutic setting may be both validating and healing. It may tap into or help strengthen a client's inner resources and help them more fully integrate their experience of mind, body, and spirit. Similar to asking about pain, asking whether religious or spiritual beliefs are an important part of his or her life signals the client that this is an area that is open for discussion and exploration in the therapeutic setting. It can also provide the therapist with additional insight into possible resources available for the client to draw on.

Future Directions.

Trauma experiences were specifically not included in this study, but three of the participants volunteered or alluded to being a victim of trauma at the hands of another at some point in her history. These disclosures were not pursued, but Davis et al. (2005) have linked childhood abuse or neglect with current chronic pain. As abuse or neglect is most decidedly not deserved, especially for children, it would be interesting to ascertain if abuse survivors who develop chronic pain have a stronger sense of injustice regarding their pain than those without abuse histories. If they do, do they also experience more anger, depression, and greater pain intensity than their non-abused counterparts?

Personal Reflections.

The idea of looking for a connection between chronic pain and self-forgiveness was a

slow, nonlinear process that developed over the course of several years. I was initially interested in integrated care options for people with chronic pain based on my personal experiences of this care being provided separately and having the all-too-common occurrence of being left feeling that I was somehow at fault when medical treatment failed to produce the desired result despite diligently following treatment recommendations. In my case, psychotherapy was suggested as an afterthought in the same sentence as taking a yoga class or getting a book on meditation by my pain treatment provider after two years of medical treatment that made many promises but which had produced nothing but an emotional rollercoaster, and which had ultimately landed me in a deep depression. This was despite the practice having a psychologist on staff who specialized in chronic pain. Until this suggestion was made, I was not even aware of his presence or that this was an option. To be fair, I too had not considered that my physical pain could be related to my own unprocessed trauma and I may have rejected the help had it been offered from the start, particularly given the off-handed way it was presented to me. I felt mortified for the psychologist that his practice colleagues treated his work so dismissively and angry when I began to experience improvements that this treatment option had not been offered early on. This experience opened the door for my interest in integrated care, a practice area I was drawn to both because I had a high interest in the medical field and because I wanted to help spare others from unintentionally inflicted and unnecessary suffering.

After receiving psychotherapeutic treatment and learning to better manage my physical and emotional pain, I happened to attend a talk on the power of forgiveness through the release of negative emotion and its often-overlooked potential as a healing process in therapy. I became intrigued by this idea, which was further fueled when I read *The Sunflower: On the Possibilities and Limits of Forgiveness* by Simon Wiesenthal (1998). In this true story of a dying and

remorseful German Nazi seeking forgiveness from a Jewish concentration camp prisoner for his murderous actions against his Jewish victims, Wiesenthal says, “The crux of the matter is, of course, the question of forgiveness. Forgetting is something that time alone takes care of, but forgiveness is an act of volition, and only the sufferer is qualified to make the decision.” (p. 97) It had never previously occurred to me that forgiveness could or should have limits, and this book was my first direct encounter with the issue of forgiveness—who can forgive whom, for what, and under what circumstances—being wrestled with from a variety of religious and secular positions.

I eventually began to think about forgiveness at a more personal level, while also contemplating my own emotional and physical pain which I had continued to work through in therapy. This led me to wonder if there could be a relationship between forgiveness and chronic pain, and if there was, if it could be utilized in therapy as another option for clients with chronic pain to reduce their suffering and pain. These seemingly unrelated events ultimately became the basis for this study.

Closing Remarks.

In giving voice to their chronic pain and forgiveness experiences, the women who participated in this study have provided a unique and powerful glimpse into the challenges they face daily and the internal resources they bring to bear in meeting them. Their willingness to share the deeply vulnerable moments from their lives and their determination to make the best of things despite the pain was touching and inspirational to observe. Though there were certainly many commonalities in their experiences, each voice was singularly distinct. This study emphasizes the importance of highlighting and honoring the individual experience as valid and true even when it does not conform to the data in aggregate form.

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Appendix A: Recruiting Letter

My name is Ellette DiPietro and I am a doctoral student in the clinical psychology program at Antioch University New England. I am conducting exploratory research under the supervision of Dr. Martha Straus to better understand the relationship between self-forgiveness and the experience of chronic pain in women. Through interviews and survey responses, I hope to gain a better understanding of how women with chronic pain think about self-forgiveness, and whether or not they experience any kind of change in their perception of pain in the process.

I am seeking women who are at least 18 years old who have experienced nonmalignant chronic pain for at least 6 months. You must be conversant in English and able to read at an 8th grade level. Participation in this project will include two interviews and the completion of two brief surveys (about 5 minutes each) twice per week for three weeks (a total of 12 surveys). Initial interviews are expected to last approximately 60-90 minutes, with a brief (30-minute maximum) follow up interview at the end of the study period. Interviews will be conducted at a location and time convenient to you. If you are interested in participating, I would be happy to speak with you further.

I can be contacted at (phone number) or by e-mail at (e-mail address).

Thank you so much for your valuable time and consideration!

Sincerely,

Ellette DiPietro
Clinical Psychology Doctoral Candidate
Antioch University New England

Appendix B: Informed Consent

Thank you for volunteering to participate in this exploratory study designed to better understand the relationship between self-forgiveness and the experience of chronic pain in women. My name is Ellette DiPietro and I am a doctoral student in the clinical psychology program at Antioch University New England. I am conducting this research under the supervision of Dr. Martha Straus. Through interviews and survey responses, I hope to gain insight into how women with chronic pain experience self-forgiveness.

1. Your participation in this study is entirely voluntary and you may withdraw from the study at any time without penalty.

2. Your interview will be audio recorded for transcription purposes. Signing this consent indicates that you agree to be recorded.

3. After interviews have been completed and the audio recording transcribed, you will be provided with an opportunity to correct or withdraw any information you have provided for 14 days.

4. You will be interviewed for approximately 60-90 minutes about your experience of chronic pain and forgiveness. This interview will be audio-recorded., You will also complete 2 brief surveys twice per week for 3 weeks (a total of 12 surveys). Finally, there will be a brief, follow-up interview at the end of the 3 week period. Interviews will be conducted at a location and time mutually arranged and convenient to you.

5. This study is not expected to involve more than minimal risk to you, though as in all research, there can be no absolute guarantee. Though unlikely, it is possible that there may be interview questions that lead to difficult self-reflections. If this happens, the interview will be stopped or discontinued, as you prefer. If you experience ongoing distress as a direct result of participating in the research, follow-up with the investigator will be provided and you will be encouraged to speak with your therapist about this. Benefits to you are expected to be primarily intellectual.

6. Your confidentiality will be protected to the greatest extent possible. However, some segments of your interview, including verbatim quotations, may appear in published form. Your name and other identifying details will be disguised to protect your identity.

7. Records will be stored in a secure location, with identifying information coded and stored separately from the transcripts. The audio files will be downloaded onto an external hard

drive and password protected. At the conclusion of the study, audio files will be transferred to compact disc and stored with the transcriptions for a minimum of three years, after which they will be destroyed.

If you have any questions or concerns about your rights as a research participant, you may contact me at (phone number) or you may contact my research supervisor, Dr. Martha Straus, at (603) 283-2187.

Consent Statement

By signing this form, you are indicating that you have read the information above and have had your questions regarding this research answered to your satisfaction. You have been informed and are aware of the potential risks and benefits of participating in this study. You understand that by signing this form, you are also consenting to have your interview audio recorded. You will be provided with a copy of this form for your records.

_____

Printed Name of Participant

_____ _____

Signature of Participant Date

_____ _____

Signature of Researcher Date

Appendix C: Interview Outline

1. Can you tell me about your pain? (How long, type, location(s)).

2. What has been the impact of chronic pain in your life? (What roles, responsibilities, activities are different for you than before you developed chronic pain?)

3. Has this changed how you think or feel about yourself or your body? If yes, in what ways? (Do you think about your body differently now than you did before you developed chronic pain?

4. What is your experience when pain gets in your way? (How do you think about the painful parts of your body when the pain interferes with your goals, plans, or pleasurable activities? Does this affect how you feel about yourself?)

5. Are there times when you don't experience pain? What is that like for you? What thoughts or feelings, if any, do you have about your body when the pain is gone?

6. Can you tell me about your hopes for yourself regarding your pain?

7. What does forgiveness mean to you?

8. What does self-forgiveness mean to you?

9. Can you tell me about a time when you forgave yourself?

10. Did you feel differently as a result of forgiving yourself? If yes, in what ways?

11. What was that experience like for you?

12. What would it mean to you to forgive your body for the pain?

Appendix D: Instructions for Differentiated Process Scales of Self-Forgiveness

Instructions for the Differentiated Process Scale of Self-Forgiveness

Before you answer the survey questions, please recall a specific time in the last week when you hurt, offended or caused harm to another person. If you cannot remember anything from the last week, try to remember something within the last 2 weeks. If you are unable to recall anything within the last two weeks, keep going back one week, up to a maximum of twelve weeks, until you recall a time that you hurt, offended, or caused harm to another person.

Each time you complete this questionnaire, all of your answers will be about this one incident. In order to help you remember this event, please write it down in the space below. This is only for you. You will <u>not</u> turn this paper in when your completed surveys are collected.

Appendix E: Narrative Theme Development

Table 1: *Sample Initial Theme Notations*

Speaker	**Interview Content**	**Initial Theme Notations**
Ellette	*Okay, so when I say 'self-forgiveness', what comes to mind for you?*	
Julia	Um, realizing that self-, um, I think it's realizing either that we make mistakes, or some things are just not in our ability to change, um, that we need to be almost, not okay with it, but realize that we need to forgive things that we can't change I guess. And then things that maybe we've done in our past that we just need to forgive ourselves, yeah.	Self-forgiveness as acceptance of imperfection
Ellette	*Do you see that, or how do you see that as different from when you were talking about anger or holding a grudge? Do you see that as a different process, or the same thing, or…?*	
Julia	Um, probably the same, letting go. I, forgiveness is hard. I feel like it's almost more of a feeling than an actual, um, action to do. With letting go, I feel like it's not on the same line of forgiving because you just, you're just moving on when you're letting go. And with forgiving, I feel like it's definitely more deep and more…, you almost have to meditate on yourself for that. I've never been able to really, fully do that. I think it's because when I start doing it, maybe I think about it more, and that affects me, so I try to just let it go. So forgiveness is, I think is hard. Hard to be able to forgive and find a way of being okay with forgiving yourself, I think. Yeah, it's hard.	Forgiveness as letting go Letting go is moving on—forgiveness deeper, requires self-reflection Forgiveness difficult because it requires self-reflection. Avoidance of gazing inward. Difficulty accepting self-forgiveness-paradox
Ellette	*So, in a way, it sounds like acceptance is easier than actually going through* (definitely) *and saying* (I forgive myself), *I forgive myself, yeah. Okay. So, can you tell me about a time when you did forgive yourself?*	
Julia	Um, yeah, and it actually took a few years to forgive myself for that. Um, there was a time where I had a friend. She was close to me and she ended up, um in a way, bullying another friend, and I, it angered me for some reason, just very much angered me in the moment. And I ended up getting very mad at her, and very angry at her, and I ended up yelling at her, and, and I didn't talk to her for a long time. And that, it was hard because I felt like I was doing good, but at the same time, I did not handle it well. And I really beat myself up for that because I felt like that is, that's the last person I ever	Time and self-forgiveness Self-punishment; anger; sense of identity. Need for self-forgiveness

	wanted to become, was an angry person. And that, it took a long time before I realized that, like, I need to, to just forgive myself for that, because it happened, and in the moment—as Angie [therapist] says—in the moment, there's a lot of things you can't explain, like anger and stuff. Um, I just know that I need to handle it differently next time. But I, I did forgive myself though.	Self-forgiveness
Ellette	*And so, in that forgiving of yourself, can you recall kind of how, what was that process for you? How did you forgive yourself?*	
Julia	That was, it was a long process. It was, it was just constantly thinking about it, and realizing that, um, looking at the situation I think was the process, looking at the situation and seeing myself and the feelings I had, what the person was doing, and realizing that, yes, the, the, the yelling was not okay, but that I can forgive because I was going off of my emotion. So it was not, not that I was…it was an excuse or a reason, a good reason, but, I guess just forgiving myself was, it felt like I should, and it felt like I needed to move on from it because it was affecting everything I do. So I realized I needed to just forgive myself. It happened and I need to move on. It was definitely a long process though, like it was a constant thoughts on it, and talking to myself about it.	Self-forgiveness; time; self-reflection; acknowledging feelings Impact of not forgiving self; forgiveness as moving on Time, self-reflection
Ellette:	*Did you feel differently as a result of forgiving?*	
Julia	Yeah! Yeah, I did. It took time, but I gradually realized that, um, I just felt better now that I realized I made a mistake of the way I handled it, but I know now not to handle it that way. And that made me feel better. I feel like I grew from it.	Time; self-forgiveness, learning, personal growth
Ellette	*Okay, so when I say 'self-forgiveness', what comes to mind for you?*	

Table 2: *Nodes and Theme Clusters*

Node	Theme Clusters	# Sources	# References
Anger	Injustice/unfairness; Impact on life and sense of self; "Letting go"	**4**	**24**
Appreciation	Managing pain	**2**	**8**
Authenticity	Managing pain	**1**	**1**
Depression	Impact on life and sense of self	**2**	**5**
Discouragement	Impact on life and sense of self	**3**	**4**
Embarrassment	Impact on life and sense of self	**2**	**2**
Fear	Impact on life and sense of self	**2**	**3**
Forgiveness	Forgiveness/Self-forgiveness	**4**	**73**
acceptance	Process of forgiving, mind/body connections	*1*	*1*
acknowledging mistakes	Process of forgiving; perspective change	*3*	*5*
impact of	Difficulty of forgiving self	*3*	*11*
letting go	Process of forgiving	*3*	*5*
new perspective	Role of perspective change; Mind/body connections	*1*	*1*
not accepting	Difficulty of forgiving self	*2*	*10*
personal growth	Role of personal growth	*2*	*4*
process of	Process of forgiving	*4*	*16*
time	Process of forgiving	*3*	*7*
self-forgiveness	Process of forgiving	*4*	*18*
Frustration	Impact on life and sense of self; Injustice/unfairness	**3**	**20**
Grudges	"Letting go"	**4**	**21**
effects of	Mind/body connections	*1*	*2*
holding onto	Anger, injustice	*2*	*2*
resolution of	"Letting go"	*4*	*15*
impact on pain	Mind/body connections	*3*	*3*
Helplessness	Impact on life and sense of self	**1**	**2**
Hope	Managing pain	**2**	**2**
Interconnections	Mind/body connections	**4**	**28**
Invalidation	The pain of invalidation	**4**	**13**
Negativity	Impact on life and sense of self	**3**	**3**
Pain	Narratives of Pain	**4**	**194**
acceptance	Managing pain; Impact on life and sense of self; Mind/body connections	*4*	*8*
anticipation of	Managing pain; Impact on life and sense of self; Mind/body connections	*3*	*6*
diagnosis	Narratives of pain	*3*	*9*
fatigue	Managing pain; Impact on life and sense of self	*3*	*17*

Node	Theme Clusters	# Sources	# References
interference	Loss of roles, responsibilities; Impact on life and sense of self	*4*	*23*
limitations	Loss of roles, responsibilities; Impact on life and sense of self	*3*	*11*
loss	Loss of roles, responsibilities; Impact on life and sense of self	*1*	*1*
pain experience	Narratives of pain	*4*	*34*
pain variability	Managing pain; Impact on life; Mind/body connections	*4*	*7*
relief from	Managing pain; Mind/body connections	*4*	*15*
resignation	Managing pain; Impact on life and sense of self	*2*	*2*
seeking solutions	Managing pain; Impact on life and sense of self	*1*	*1*
self-identity	Loss of roles, responsibilities; Impact on life and sense of self	*4*	*32*
sense of being different	Sense of self as existing outside of "normal" life	*2*	*8*
suffering	Mind/body connections	*1*	*2*
treatment	Managing pain; Impact on life and sense of self	*3*	*8*
unpredictability	Managing pain; Impact on life and sense of self	*4*	*9*
Perseverance	Managing pain	**3**	**3**
Positivity	Managing pain	**3**	**6**
Resignation	Impact on life and sense of self	**2**	**5**
Self-care	Managing pain	**1**	**3**
Self-criticism	Impact on life and sense of self	**3**	**14**
Self-doubt	Impact on life and sense of self	**3**	**7**
Shame	Impact on life and sense of self	**1**	**1**
Stress	Impact on life and sense of self	**4**	**9**
Supports	Managing pain	**2**	**13**
Trauma	Impact on life and sense of self	**2**	**2**
Uncertainty	Impact on life and sense of self	**2**	**5**
Unfairness	Injustice/unfairness	**4**	**11**
Validation	Managing pain	**1**	**9**
Worry	Impact on life and sense of self	**2**	**2**

Appendix F: Demographics
Demographics Form

Please provide the following information to help me learn a little bit about you and your background.

Name:_____

Age:_____

What kind of pain have you been diagnosed with?_____

How long have you had this pain?_____

Race/Ethnicity:_____

Religious Affiliation (if any):_____

Education (highest level or grade completed):_____ If you did not complete high school, did you earn a high school equivalency diploma (GED)? Yes No

Employment Status: _____Full Time _____Part Time _____Homemaker
_____Unemployed _____Student _____Retired
_____On Disability (if yes, is this as a result of your chronic pain? Yes No)

Job Title:_____

Marital Status:_____Single _____Married _____Divorced
_____Remarried _____Widowed

If unmarried, do you currently have a significant other? Yes No

Sexual orientation:_____

Do you have children? Yes No

If yes, number of children?_____ Ages:_____

Who lives with you? (Just provide relationship to you rather than names. Include pets/companion animals. For example, partner/spouse, son, mother-in-law, roommate, cat/dog):

Table 3: *Demographics Summary*

Name	**Michelle**	**Julia**	**Sarah**	**Shannon**
Age	49	29	55	32
Pain Diagnosis	no diagnosis	rheumatoid arthritis	psoriatic arthritis	no diagnosis
How long?	since childhood	10 years	24 years	since childhood
Race/ethnicity	Caucasian	Hispanic	Caucasian	Caucasian
Religious Affiliation	Green Witch	none	none	non-practicing Roman Catholic
Education	Master's degree	<12 years no GED	High school	Doctoral candidate
Employment Status	part time	no	full time	full time
Marital Status	married	single, unpartnered	married	single, unpartnered
Sexual Orientation	heterosexual	bisexual	heterosexual	heterosexual
Children	none	none	1 (25 yo)	none
Live with	husband	roommate	husband	parents